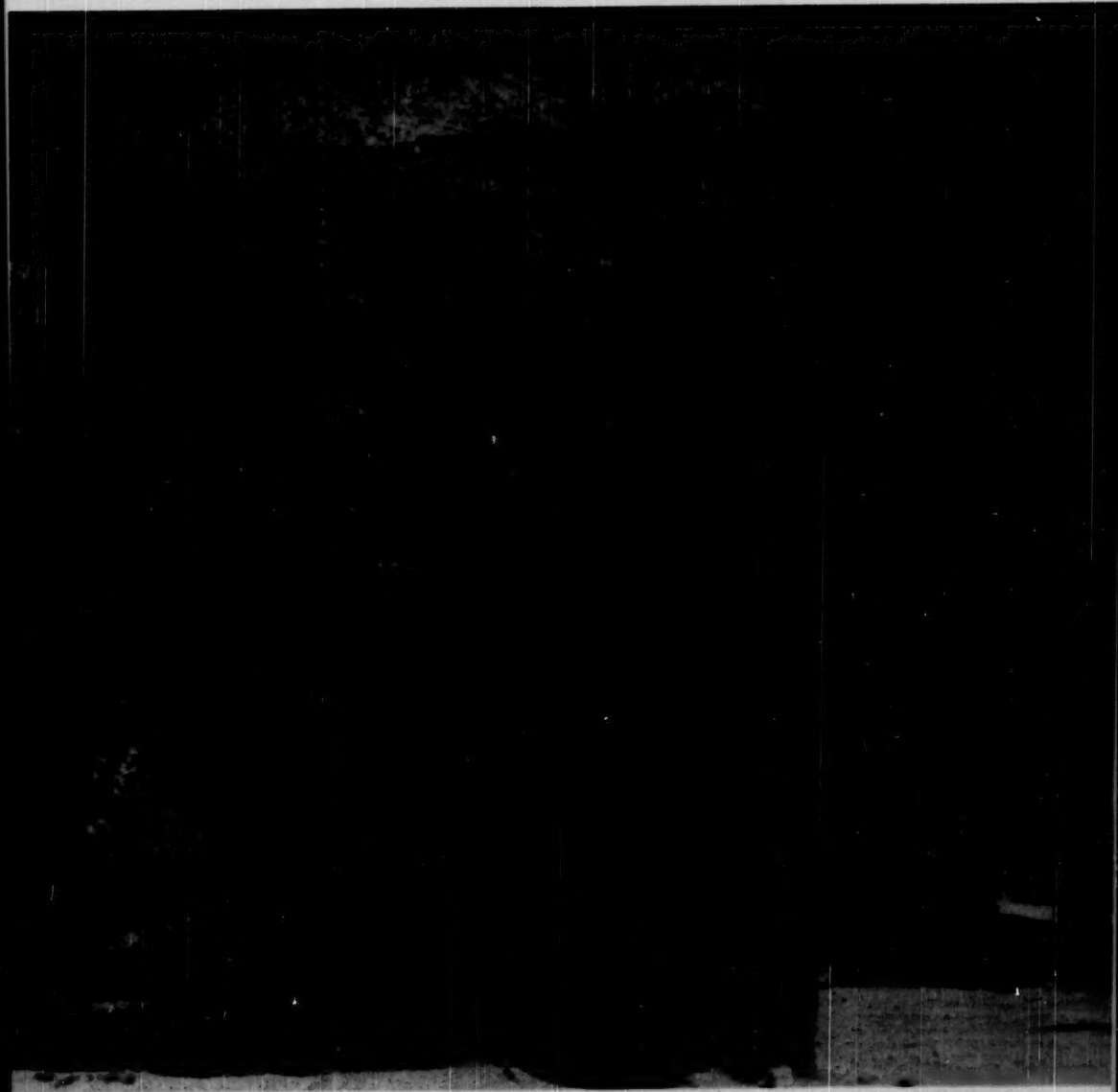
Standardization

News Magazine of the American Standards Association, Incorporated



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MARCH 1950

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Company Members—More than 2100 companies hold membership either directly or by group arrangement through their respective trade associations.

Marginal Notes

More Efficiency in the Government—

The Government's reorganization of its purchasing operations (page 53) will bring a smile of pleased anticipation to the faces of all taxpayers—anticipation of lower costs and possible substantial money saving. The reorganization was done on the recommendation of the Hoover Commission, which found that purchasing, storage, and handling of supplies and equipment used by Government departments could be done to better advantage if reorganized and consolidated. Willis S. MacLeod, who describes the steps taken to tighten up the Government's operations, is a long-time participant in the work of the American Standards Association, formerly a member of the Standards Council and first chairman of the Company Member Conference. One interesting point not mentioned by Mr MacLeod is the fact that Russell Forbes, who made a name for himself as efficient Commissioner of Purchase for the City of New York and strong believer in the use of standards in purchasing, has recently been named assistant administrator of the General Services Administration.

Up-to-Date Standards—

Again the recurring problem—how to keep standards up to date with technical developments—is open for discussion, this time with a specific suggestion. Mr Rehard (page 68) knows what it means to manufacturers to have to cope with a wide variation in state regulations. He thinks it is up to the people who make the standards to see that they are kept up to date automatically. Next month, STANDARDIZATION plans to publish another viewpoint on the subject.

How the Council Works—

All too often members of the American Standards Association complain "I can't understand how the ASA works." For those of you who want to know, the report of the recent Standards Council meeting (page 57) may be interesting. Not only does it tell something about the Council itself but it also reports on the status of some of the work now before the Council. Several significant international projects were discussed at this meeting.

Progress in Mexico—

STANDARDIZATION considers it an important service to bring to its readers (page 64) the authoritative description of the new research and testing laboratories and their relation to the standardization and industrialization program being developed in Mexico.

Our Front Cover

The ancient Mexican stone carvings are now on view for tourist admiration at the National Museum in Mexico City. Modern Mexico is a happy integration of the graceful elements of past culture with the forward-looking scientific progress of the present day. President Avila Camacho signed the law of industrial standards in 1945 which provided for the creation of the DGN (Dirección General De Normas). For a complete story on the Mexican national standardization program, turn to page 64 of this issue. *Cover photo from the Mexican Government Tourist Office.*

Opinions expressed by authors in STANDARDIZATION *are not necessarily those of the American Standards Association.*

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Standardization is dynamic, not static. It means not to stand still, but to move forward together.

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ASA

Reg. U. S. Pat. Off.

Ruth E. Mason, Editor **Dollie Carpenter, Production Editor**

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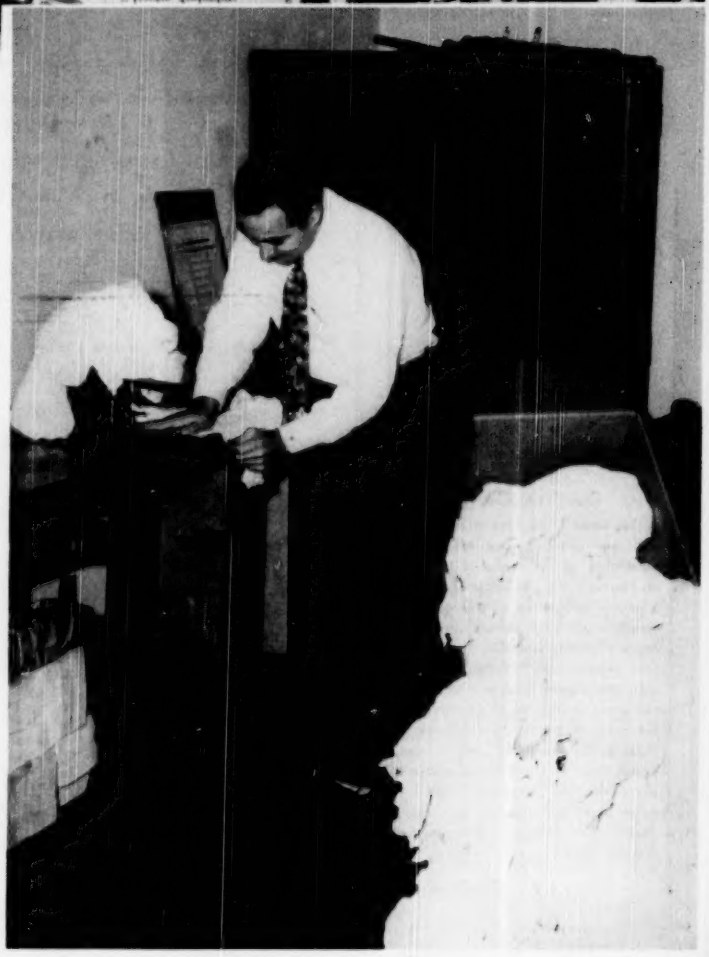
STANDARDS

What is a Federal Purchase Standard?

Recently organized to serve as the Government's "housekeeping" agency, the General Services Administration includes under its jurisdiction the multimillion dollar business of purchasing supplies for Federal Government agencies. Nationally recognized standards and specifications are frequently the basis for Federal Specifications which outline the requirements for the material and equipment used by more than one department. Inspection and testing, also among the Administration's functions, check on whether the material purchased meets the standard requirements.

The photo above was taken of an exhibit illustrating the operation of the standards system within the Government. The ten major groupings of Federal specifications include: building materials, office supplies, food, metals, chemicals, transportation equipment, machines, electrical equipment, hand tools, textiles, and leathers. All products purchased for consumption by the Federal Government are subjected to rigid tests; at right a Federal Supply Service inspector tests samples of wiping and waste cloths, different types of which the Government annually purchases in the amount of over $1 million.



STANDARDIZATION AND THE GENERAL SERVICES ADMINISTRATION

by Willis S. MacLeod

Director, Standards Division Federal Supply Service General Services Administration

WITH the passage of the Federal Property and Administrative Services Act of 1949, known as Public Law 152, 81st Congress, there came into being on July 1, 1949, for the first time in the organization of the Federal Government, a general housekeeping service. The agency thus established by the Congress, known as the General Services Administration, is made responsible under the law "to provide for the Government an economical and efficient system for

(*a*) the procurement and supply of personal property and nonpersonal services, including related functions such as contracting, inspection, storage, issue, specifications, property identification and classification, transportation, and traffic management, management of public utility services, repairing and converting, establishment of inventory levels, establishment of forms and procedures, and representation before Federal and State regulatory bodies;

(*b*) the utilization of available property;

(*c*) the disposal of surplus property; and

(*d*) records management."

To achieve the objectives of the Act, it was appropriate that the new agency be created through the consolidation and integration of existing organizations in the Government concerned with these functions. The Act, then, transferred to the new agency, the Bureau of Federal Supply at that time in the Treasury Department; the Federal Works Agency then consisting of the Public Buildings Administration, the Bureau of Public Roads,* and the Bureau of Community Facilities; the National Archives; and the War Assets Administration. This major reorganization, one of the largest consolidations of agencies in the history of the Federal Government, followed closely the recommendations of the President and of the Commission on Organization of the Executive Branch of the Government looking toward bringing about effective, efficient, and economical housekeeping and general service operations in the business affairs of the Government.

* The Public Roads Administration, together with its functions, personnel, funds, and the functions of the Commissioner of Public Roads, was transferred to the Department of Commerce by Reorganization Plan No. 7 of 1949, effective August 20, 1949 (14 F.R. 5228).

Following the appointment of Mr Jess Larson as Administrator of General Services Administration, the President addressed a communication to all executive agencies of the Government emphasizing the role that GSA would play in the improvement of general services activities in the Government. He directed that the Administrator institute studies and surveys in cooperation with other interested agencies to determine the extent to which existing policies, procedures, and directives should be modified or revoked in order to achieve the objectives of P.L. 152. The President also directed that careful consideration be given to determining the degree to which service functions be centralized in the General Services Administration or the responsibility for performance delegated to other Government agencies.

Following such studies and surveys, the Administrator was directed to issue the appropriate regulations necessary to carry out his responsibility. The President, in a further communication to the Director of the Bureau of the Budget, the Secretary of Defense, and the Administrator of General Services, directed that the Secretary of Defense should not exempt himself (under the terms of the Act) from the provisions of the Act and further should work out, for approval of the President, areas of understanding with respect to the extent to which the Department of Defense should be exempt from the jurisdiction of the Administrator. Appropriate recommendations to the President on areas of understanding are being developed.

All photographs for this article from U. S. General Services Administration.

The Administration's Job

The job of the General Services Administration falls within the following broad groups of activities:

(1) *Supply and Management of Personal Property*

This involves the formulation of supply requirements and the utilization of property; purchasing; warehousing and inventory control; repair services; and freight traffic and utilities management; distribution of excesses and disposal of surplus property; and the development and maintenance of standard purchase specifications, a system of supply item identification, the standardization of supplies, and the inspection and testing of materials to establish compliance with standards and specifications.

(2) *Management of Real Property*

This includes the acquisition of land and buildings, the design and construction of buildings, the allocation and control of federally owned and rented space, the protection and maintenance of Federal real property, and the determination of excess real property and the disposal of surplus.

(3) *Community Facilities Assistance to States and Municipalities*

This activity provides advice and assistance in the planning and engineering for non-Federal public works construction and the construction of Federal

The author, Willis S. MacLeod, is the Director, Standards Division, of the General Services Administration's Federal Supply Service. Associated with the Federal Supply Service since 1943, Mr MacLeod has also held posts as Special Assistant on conservation, standardization, and simplification in the War Production Board Office of Civilian Requirements, and Director of Standards Division in the OPA. Before his government service, he was Chief Refinery and Safety Engineer in Sumatra for the Standard Oil Company of New Jersey, and later headed the standards group of the Standard Oil Development Company in the U.S. where he helped develop a program of standardization and simplification of refinery equipment.

public works in Alaska and the Virgin Islands.

(4) *Records Management*

This includes the authority to make surveys of Government records and records management and disposal practices, and obtain reports thereon from Federal agencies; to promote, in cooperation with Executive Agencies, improved records management practices and controls in such agencies, including the central storage and disposition of records not needed by such agencies for their current use; and to report to the Congress and the Director of the Bureau of the Budget the results of such activities.

Four Operating Services

The General Services Administration consists of four operating Services: Federal Supply Service, Public Buildings Service, Community Facilities Service, and the National Archives and Records Service. Each of these is headed by a Commsisioner with the exception of the National Archives and Records Service which is headed by The Archivist of the United States.

The standardization activities of the General Services Administration apply not only to real and personal property but also extend into certain aspects of standardization of management practices and procedures. Recognizing this, the Act gives the Administrator authority for "prescribing standardized forms and procedures . . . and standard purchase specifications." Relating this to the Public Buildings and Community Facilities Services and the records management activity of the National Archives, it follows that the basic elements for design and the types of materials to be used may be coordinated with standardized practices for utilizing and operating buildings, insofar as these involve Federal buildings and public works under GSA's program. They may also be coordinated with standardized methods and procedures for handling records. This coordination will contribute much to overall standardization and the attainment of one of the principal objectives of the Act.

The Standards Division

The standardization program for materials, supplies, and equipment purchased and used by the Federal Government is centralized in the Standards Division of the Federal Supply Service. This Division has three operating Branches covering specifications, cataloging, and inspection.

The objective of the General Services Administration is to provide the essential commodity standards operations necessary to support all supply and property management activities under the Act. These operations include the planning, directing, and coordinating of all programs of the Administration on (*a*) the development and maintenance of Federal specifications and General Services Administration specifications; (*b*) the development and maintenance of the Federal Catalog System, the standardization of commodities purchased and used by the Government, and coordination of governmental standardization activities; (*c*) the coordination and optimum utilization of Government materials inspection and testing facilities; (*d*) the technical aspects of the Federal Supply Service personnel safety and fire prevention program; and (*e*) the coordination of participation by GSA technical personnel in activities of nationally recognized technical societies and standardizing bodies.

The specifications program of the General Services Administration will make possible full coordination of interdepartmental specification activities so as to provide the Government with uniform Federal specifications for all commodities which are used in common by Federal agencies. Historically, Federal specifications have been developed with the advice, on policy and procedures, of the Federal Specifications Board, which consists of designated representatives of the major supply departments of the Government. The preparation of Federal specifications has been done by 77 technical committees composed of members designated by Federal agencies having specialized technical competence in the commodity fields covered.

The Federal Specifications Board advises the Commissioner of the Federal Supply Service and exercises general supervision over the work of the technical committee. The day-to-day activities of the committees are guided directly by the executive vice-chairman of the Board, appointed by the commissioner and responsible for all standards operations in the Federal Supply Service. The Specifications staff maintains direct coordinating supervision of the technical committee activities, it assists in the development of drafts of specifications, and in general expedites and correlates the work of the committees.

To Simplify Procedures

Though good progress has been made in the Federal specifications work during the past four years, much remains to be done in the simplification of procedures and in the acceleration of specification production. In addition, there is vital need for more direct and continuous coordination between the specification activities of the General Services Administration and the other agencies of the Government, particularly the military, in order to avoid the duplication of work presently existing between these agencies.

Plans have been made for improvement in these operations. For example, in order to speed up production of Federal specifications, an accelerated program is being developed:

GENERAL SERVICES ADMINISTRATION

(1) to adopt as interim Federal specifications, agency specifications or nationally recognized specifications which appear satisfactory for Government-wide use, and, if after a trial period these specifications do prove satisfactory, to promulgate them as Federal specifications; (2) to limit the time allowed for the submission of comments from Federal agencies on proposed specifications and to coordinate these comments within each agency before submission to the Federal Supply Service; (3) to delegate the responsibility for preparing Federal specifications to any agency having particular technical competence in the item to be covered by the specification; and (4) to establish more direct working contact with representatives of industry and nationally recognized technical societies in order to obtain promptly their comments on drafts of specifications.

"Review" Committees

The specifications program further recognizes the importance of doing first things first and thereby will concentrate on preparation of Federal specifications offering the greatest benefits to Government supply.

In order to simplify procedures, studies are being made to determine whether certain existing procedural steps could be eliminated without impairing the quality of the specifications produced. Consideration is being given to modifying the functions of the technical committees to make them "review" committees rather than time-consuming "operating committees." This change in function will be made after careful comparative study of the existing operations versus the proposed operations.

With respect to closer coordination of interdepartmental specification activities to avoid duplication of work, arrangements are being made to establish more definite working relationships between the General Services Administration and major Federal agencies concerned with specifications work. This will be done through increased contact between the Specifications staff of the GSA and the Specifications staffs in the other Agencies. In addition, a central register is being established in the General Services Administration so that every initiation of a specification project, and any revision or amendment to existing specifications by any agency will be known, and duplication and overlapping can thus be avoided.

These improvements in operations and in Government-wide coordination, which will occur progressively, are expected to result in more and better Federal Specifications, in less time and with less duplication and overlapping of effort.

Paints are given evaporation tests, ensuring that samples meet specifications, before receiving "accepted" label of the Federal Supply Service.

Uniform Catalog Systems

Sec. 206 (a) (3) of Public Law 152 authorizes the General Services Administration "to establish and maintain such uniform Federal supply catalog system as may be appropriate to identify and classify personal property under the control of Federal agencies. . . ." A uniform catalog system which provides for the identification of all items of supply is basic to the successful conduct of all phases of the supply system including purchasing, warehousing, distribution, inventory control, property accountability, surplus disposal, transportation and utilization of personal property. The identification of each item of supply through a uniform description which embodies the essential characteristics of the item and differentiates it from other similar items in the supply system, is also basic to an orderly approach to the standardization of commodities. Through this identification, duplicate items are discovered and eliminated. It follows then that unnecessary sizes, and wasteful variations and types of items can be determined and eliminated. In this process the interchangeability and substitutability of items in the supply system can be established, and a practical approach is provided for full standardization in terms of the performance and application of the items in use. In consequence, the objective of standardization to provide the most economical item of supply for the service conditions under which it is to be used is met.

Prior to the passage of P.L. 152 the cataloging operations of the Federal Supply Service were divided into two categories: (1) maintenance of the Federal Standard Stock Catalog and (2) participation in the development of plans for the establishment of a uniform Federal Catalog System.

The Federal Standard Stock Catalog was authorized by an appropriation act of the Navy Department in 1929. The Catalog consists of a classified arrangement of 600,000 supply items. But this catalog was not sufficiently expansible to meet the tremendous demand of supply operations during World War II. In 1945, President Roosevelt directed that plans be developed for a uniform system of item identification and classification to be used by all agencies of the Government. The last four years has seen the interdepartmental development of the com-

plete plan for the accomplishment of this objective and P.L. 152 provides the necessary legislation by which to achieve it.

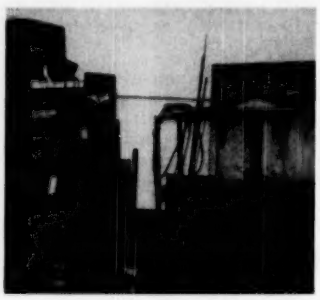
The supply cataloging program of the General Services Administration consists of (1) the establishment of methods and procedures by which cataloging requirements of civil agencies and the present cataloging program of the Department of Defense may be coordinated in order that a uniform Federal Catalog system will result; and (2) the conduct of surveys to determine the scope of cataloging operations to be performed by each civilian agency so that all items of their supply will be included in the system.

The Federal Catalog System is being developed through joint and coordinated cataloging operations in the Department of Defense for the military departments and in the GSA for the civilian agencies. The development and application of the catalog system in military supply presents a more difficult problem than in civilian agencies because of the more extensive and variable demands upon the military supply system. In consequence, the bulk of the item identification work is being done in the Department of Defense by the Munitions Board Cataloging Agency and its staff. Civil establishments cataloging activities are coordindated with this work by GSA and civilian agency representatives in the Munitions Board Cataloging Agency. Under this plan of operation the civil agencies will utilize the work of the military services. Items used solely by the civil establishments will be identified by them and included, thus resulting in a Federal Catalog System which can be used throughout the Government.

Materials Inspection Coordination

Under P.L. 152 the coordination of Government inspection of materials activities becomes an increasingly important part of the supply and property meanagement program of the Government. Prior to the Act, the Bureau of Federal Supply was responsible primarily for the inspection and testing of its own purchases. This inspection was concentrated mainly on special purchase programs such as Foreign Aid and Strategic and Critical Materials rather than on materials purchased under the regular supply operations. The authority to promulgate Government-wide inspection policy was questionable, although Federal Supply did take the initiative in furnishing information and in developing policies. Under the new legislation the General Services Administration is responsible for the coordination of Federal inspection and testing facilities to assure their most economical and practical use by the various Federal agencies and to promulgate inspection policies, standards, and procedures to be followed by all Government inspection organizations.

To accomplish this, the following program is underway: (1) to establish policies by issuing rules and regulations of inspection and testing to Executive Agencies; (2) coordinate inspection and testing activities in the Executive Agencies to more efficiently accomplish inspection and testing, and to eliminate duplication of these services; (3) establish a basis for charges for inspection services between Executive Agencies; (4) prepare and maintain inspection manuals prescribing procedures and methods of inspection; (5) arrange for and make inspections of materials purchased or contracted for by the Federal Supply Service; (6) receive and maintain for use of Executive Agencies (*a*) samples submitted with bids as indicators of type and



The "mechanical file clerk" tests wearing qualities of file cabinets.

quality and (*b*) standard prototype samples; (7) inspect manufacturers' and suppliers' facilities to determine adequacy and ability to perform under purchase contracts; (8) establish and maintain a reporting system so that information on suppliers' performance can be correlated to determine the responsibility of the supplier to produce and deliver materials complying with purchase specifications. The information will be made available to Executive Agencies' purchasing officers for consideration in contract awards, and for preparation or revision of specifications.

Commodity Standardization

Another essential responsibility of the Standards Division is the standardization of commodities in order to eliminate unncessary and uneconomical types, grades, and varieties of commodities from the Federal supply system. This will provide for Government-wide use of standard commodities offering the greatest value in terms of cost and serviceability. Some commodity standardization has been accomplished in various Government agencies. This standardization work has proceeded independently and with little coordination for many years. However, the need for a Government-wide program of standardization of commodities has long been regarded as a "must" for economical Federal supply.

Standardization of commodities in the Standards Division has been largely a by-product of the Federal specification activity. No effort has been made to operate a formalized standardization program with emphasis on those products which offer the greatest savings to the Government, nor has there been any effort to coordinate Government-wide standardization activities.

To comply with the provisions of P.L. 152 it was necessary that Standards operations be broadened to include the standardization of commodities as it applies to standard purchase specifications, cataloging, and inspection of materials and testing. This program includes: (1) determination of methods to assure uniformity in Government standardization work; (2) assuring maximum utilization by Federal agencies of Government standardization work; (3) eliminating duplicate standardization work by Federal agencies; (4) initiation and preparation in GSA of standardization work which it can more efficiently and economically perform; (5) obtaining the maximum assistance of industry and technical societies in Government standardization work; and (6) assistance to small business and public purchasing groups with their standardization problems.

Priority will be given to standardization projects which will provide the greatest benefits and savings to the Government. The work will be concentrated on common use items whose importance to Federal supply and the volume of Government purchases warrants standardization. Among the most common of these commodities are paper and stationery, office and janitorial supplies and equipment, furniture and furnishings, paints and chemicals, and lubricants and greases.

Working relations between the

(*Continued on page 71*)

ASA Council Hears Progress Reports

IN its role as "watchdog" of American Standards, the Standards Council of the ASA met January 10 to review the progress of the technical work under ASA procedure, iron out difficulties, and make decisions on problems brought to it for solution. The 80-member Council represents all the technical societies, trade associations, and other groups that are Member-Bodies of the American Standards Association.

Its duty is to determine whether agreement has been reached on a standard by all groups concerned—that a "national consensus" has been reached. It does not vote on technical questions. It must make sure, however, that every step leading to the approval of an "American Standard" has been carried out and that every group with an interest in the subject under consideration has had an opportunity to express its views.

Council Delegates Authority

To speed its work, the Council has delegated authority to start new projects, approve the personnel of committees, and approve new standards to smaller groups operating under its jurisdiction. Correlating committees supervise the work of technical committees in specific fields, and the 6-man Board of Review acts on behalf of the Council to speed approval of standards. The Council maintains supervision of all actions, however, and acts as referee in case of disputes. In most of the cases reported to it by the correlating committee and the Board of Review, the problems have been resolved amicably and no question remains for the Council to consider. In a few cases, however, differences in the interest or viewpoint of the parties concerned have made agreement impossible and the Council is asked to exercise its judicial function to reach a solution.

The January Council meeting heard the Board of Review report that 33 proposals had come before it and been approved as American Standard since its last report. These cover a broad range of materials, equipment, consumer goods, test methods, components, and definitions.*

The correlating committees, responsible for the work of the technical committees in their special fields—mechanical, building, electrical, consumer, safety, and mining—told what actions had been taken since the annual meeting of the Council in October. Most of these actions had already been referred to the Board of Review and were among the 33 approved American Standards mentioned in the Board's report.

A few special points indicated the trend of the work, however. The Safety Code Correlating Committee reported that a special committee has been organized to make a study of American Safety Standards as recommended by the President's Conference on Industrial Safety. The study is to determine whether additional safety standards are needed and whether existing ones are adequate. Discussion at this committee's first meeting in December indicated that the greatest problem is not lack of standards but insufficient knowledge and use of those now available. Two subcommittees have been appointed, one to study how to bring about greater use of the present American Safety Standards; the other to study the need for additional standards. It has been suggested already that a comprehensive subject index would increase the use of American Safety Standards by making it possible to locate all the material now included in the existing standards. The special committee is planning to present a progress report at the President's Conference on Industrial Safety June 5, 6, and 7.

The Building Code Correlating Committee is studying the desirability of expanding its field of activities to include supervision of standards for the building industry as well as building code standards. In the event that the Building Code Correlating Committee does decide to undertake supervision of the enlarged program, it has been suggested that the committee's name be changed to the Building Code and Construction Standards Correlating Committee.

Most of the problems brought to the Council for action at this January meeting affected participation in international projects. The recommendation of the Board of Examination that the ASA inform the International Organization for Standardization that it cannot accept the invitation to participate in the work of ISO/TC/63 on Screw Threads for Glass Containers was confirmed. This action was taken on the recommendation of the Glass Container Manufacturers Institute. The project was recommended by the Norwegian standards association and is expected to include screw threads for glass containers and corresponding lids, and dimensions of threaded necks of glass containers when standardization is necessary to obtain interchangeability. Since the Glass Container Manufacturer Institute is the major group in this field in the United States, the Standards Council confirmed the Board of Examination's decision that the project had failed to secure adequate support from American industry.

The American Standards Association will take an active part, however, in the international project on Graphical Symbols for Use on Drawings. The sponsors of the ASA committee on the same subject, which will represent the American viewpoint in the international project, recommended U. S. participation.

The importance of every decision on the part of American industry to take part or not to take part in international coordination of national standards was emphasized in the case of ISO/TC/17 on Iron and Steel.

A confused situation in connection with American participation in ISO/TC/17 on Iron and Steel was referred back to the Board of Examination. Although ASTM Committee A-1 on Iron and Steel, the effective technical committee in the United States, had voted in favor of the United States taking part in this international work, other important national organizations had not looked upon the activity with favor. The Council asked for a clarification of reasons for these recommendations, to determine whether they represented a long-range or short-range viewpoint. "Let us not let a short-range viewpoint keep us from taking part when international agreements are reached on such an important point as that of iron and steel," one member of the Council pleaded.

International Project

In addition to approval by ASTM Committee D-5 on Coal and Coke, a recommendation from the Economic Cooperation Administration

* See "American Standards Approved" in Status of American Standards section of recent issues of STANDARDIZATION.

to the Department of State, transmitted to the American Standards Association, helped to tip the scales in favor of United States participation in the international project on solid mineral fuels (coal and coke), ISO/TC/27. "In administering the European Recovery Program, ECA and the participating countries would be greatly aided by uniform standards by which to evaluate the coals and cokes of the several producing countries," the memorandum explained.

"It is imperative that every step should be taken to break down the barries that hinder the easy evaluation and free flow of trade in these commodities.

"In order that the international standards shall contain all the best provisions of the United States practice and to be fully advised as to progress and results, it seems desirable that the United States participate actively in formulating them," the memorandum concluded.

On recommendation of the Mining Standardization Correlating Committee, the Standards Council authorized ASA participation in the project on coal and coke.

Two pioneers in the American Standards Association were given affectionate honorable mention at the Standards Council's January meeting. Both were charter members of the Council and both have now retired and resigned from active work with ASA.

F. M. Farmer, chairman and vice-chairman of the Council from 1933 to 1940 had represented the American Society for Testing Materials in ASA work since 1925. His active leadership in the Council included development of ASA methods and policies as a member of the Committee on Procedure and direct supervision of much of the technical work on the Board of Examination. He had taken a leading part in the development of the electrical program through the Electrical Standards Committee.

F. O. Hoagland, representative of the National Machine Tool Builders Association since 1933, has not only been active in the Council itself but also in the Mechanical Standards Committee. His interest in the national standards program led him to address local organizations in all parts of the country, stimulating interest in the American Standards Association and in standardization generally.

Members of the Council emphasized the loss the Council has sustained. Both Mr Farmer and Mr Hoagland, one member pointed out, have been an inspiration because of their strong belief in the economic value of standards to the industrial economy. They were men with the high intelligence and energy needed to make the standardization program a success.

Armed Services Purchases to Be Standardized by Name

One hundred twenty-five million dollars a year is the amount the Navy estimates it is saving because it has standardized the names of its aircraft motor parts. Before standardization it was buying 100,000 parts whereas all Navy engines combined have only 8000-odd parts; some, it was found, had as many as 500 different names. The Munitions Board's Cataloging Program, which plans to give every item purchased for the Armed Services one name, one number, and one description, has just been given the speed-up signal by Secretary of Defense Louis Johnson. He has named July 1, 1952, as the date for completing the job. Five million names of military items will have to be studied. The Board expects to reduce this number to three and a third million—or possibly as low as two and a half million. Up to the present time, it has approved some 330,000 names in place of some 400,000 former names. The nature of the task is indicated by Jim G. Lucas, Scripps-Howard staff writer, in a recent column. "It isn't easy," Mr Lucas says. "For instance, the Munitions Board and the Bureau of Federal Supply are right in the middle of a name-calling argument about jams and canned peaches. The Munition Board says 'Jams, Assorted' is enough. The Supply forces say blackberry and blueberry jams ought to have separate names and numbers They're also holding out for eight to ten kinds of canned peaches. The Munitions Board says it will never settle for more than one."

Mr Lucas continues, "The older the word, the board says, the more confused. There are at least 5000 kinds of nails. It hopes to cut the list to a few hundred. As for screws and bolts —it sees nothing but trouble ahead. Some screws are called bolts and as many bolts are screws."

• • Special guest at the Standards Council meeting in January was Dr M. A. Arnan, director of the Standards Institution of Israel. He explained that his association has many testing and research duties similar to those of the National Bureau of Standards in this country, and that he was in the United States on a special mission to purchase laboratory equipment. The Institution is paying a great deal of attention to scientific work as one of the means of developing the country, he explained. Dr Arnan's Institution, the only organization in the Middle East working on standardization, has found the American Safety Standards useful in developing its own group of standards.

To Be Or Not To Be "Inflammable"!

Bringing discussions on the use of the word "flammable" up to date, the National Fire Protection Association announces that many organizations have adopted "flammable" to designate materials that are easily ignited and burn with unusual rapidity. In law, however, the NFPA points out, the word "inflammable" persists.

"Now, after 25 years, the Congress of the United States has given official sanction to 'flammable,' " the NFPA reports in its *Fire News*. "It has just come to our attention," the *News* declares, "that in Chapter 39 of Public Law 772 (80th Congress, Section 835, Approved June 25, 1948, Effective September 1, 1948) the word 'flammable' is used in place of 'inflammable' with reference to Interstate Commerce Commission regulatory powers. The Civil Aeronautics Board adopted the word 'flammable' in their Revised Regulations on Transportation of Explosives and Other Dangerous Articles (Civil Air Regulations, Part 49, 7/20/49)."

DUPONT ENGINEERING STANDARDS

COVERING WIDE VARIETY OF SUBJECTS, THEY PROVIDE FOR IMPORTANT SAVINGS IN TIME AND MONEY

ALTHOUGH the use of du Pont standards goes back 38 years to 1911, it took World War II to demonstrate their real worth. In those hectic days, when every piece of material, every technique, and every day had to serve its best purpose, thousands of Engineering Department manhours were saved by applying engineering standards to problems of design, procurement, and construction.

Standards were applied not only to many repetitive jobs, but they also were used in the construction of parts of plants, as in the nitric acid concentrating units. In the case of TNT Special, the design and construction of whole plants were standardized.

Wartime control through standardization was important for the conservation of materials and, more important still, manpower. Postwar standardization becomes increasingly important as a means to provide our customers with a better product at a lower cost.

What Are Standards?

Du Pont engineering standards may be drawings, sketches, tabulations, or word pictures used to describe methods and list specifications. They suggest the best ways to handle many of the recurrent engineering jobs, which we in the department and the men on the plants are called upon to perform.

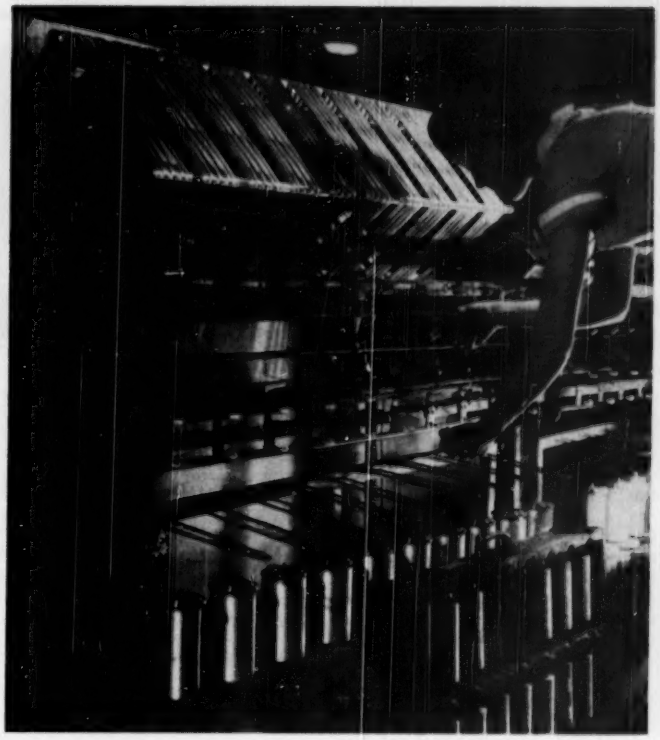
Naturally, the standards do not include every one of the tens of thousands of different pieces of equipment and materials used every year by du Pont. Likewise, they do not attempt to cover every one of the company's myriad of engineering problems. But they do contain details for simplifying the purchase of materials and equipment, and the use of hundreds of commonly used commodities. Also, they furnish complete and proven methods for performing an equally large number of recurrent design, construction, and maintenance tasks.

Cooperation in National Program

The company's activities in the standardization field are not confined to the development of company standards alone. The Standards Committee feels strongly that benefits may be obtained and material contributions made by participation of company personnel in the national standardization program.

To this end you will find 67 du Pont engineers and technical personnel active on committee and subcommittees of the American Society for Testing Materials, some 22 representatives on sectional committees and subcommittees working under the procedure of the American Standards Association, three on the Boiler Code committee and subcommittees of the American Society of Mechanical Engineers, and five on standardization committees of the American Institute of Chemical Engineers.

In addition, du Pont is represented on the ASA Company Member Conference Administrative Committee.



Successful engineering standards have been applied to greatly diversified operations at plants of E. I. du Pont de Nemours and Company.

All photos for this article from E. I. du Pont de Nemours and Company

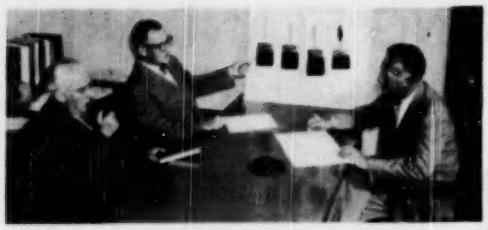
Application of Standards

As an example of how standards work: The plant manager at Leominster, the works engineer at Belle, and the designer in the Design Division each is faced with a problem of installing an ordinary window in a 12-in. brick wall. Each man, by referring to Engineering Standard B-21.. has full details for this job, and in each case, of course, installation is the same. Resulting savings in time are obvious.

Started in 1911

In 1911 work was started on the compilation of a uniform collection

NOTE: Reprinted from the September 1949 issue of Du Pont Engineering News.



The du Pont Company is one of the largest consumers of paint brushes, besides making the nylon that is used in many of them. Standards Engineer Stan Knecht (center) points out advantages of new paint brush standard to Bill Kiler, Head-Standards group, (left) and Harold F. Jones, Division Purchasing Agent and advisor to Standards Committee. The paint brush standard is one of a new series of Stores Standards suggested by Purchasing Department and Manufacturing Divisions.

Left to right: standards engineer, Joe Shaw; Jim Martel, assistant division engineer; Ward Myers, engineering service division consultant; and Tom Hill, design project manager—Plastics, inspect a section of stainless steel tube which has been rolled into a flange for mechanical testing. The possible effect of this technique on corrosion resistance is being determined. If satisfactory, proposed adoption of stainless steel tubing rolled into bushed flanges will result in substantial savings, in which case a new standard will be written.

of standards for use throughout the company. The first set was issued in 1912 in printed form. It was made up of 121 pages which were punched to be kept in a 5 × 8 loose-leaf binder. These first standards included, for the most part, such office equipment as carbon paper, chairs, erasers, paper clips; plant items, such as brushes, gloves, aprons, matches; and design and field materials, such as valves, piping, steam traps, building materials, electrical equipment.

In 1914, the original loose-leaf binder was replaced by 8½ × 11 blueprints, which grew to a collection of 274 sheets before becoming obsolete. By 1921, the uses for standards had increased to the point where it was realized that they should be issued under subject headings. In this same year they were again brought up to date, although no provision was made for maintaining them on a currently revised basis.

As a result, by 1930 it was necessary to make another complete revision. At that time, a new standards book was adopted. It was divided into 12 sections and contained 549 standards. In addition, a new volume, in five sections, was started to cover design data and design standards. These latter volumes were the forerunners of the present Engineering and Design Standards books.

Full-Time Unit in 1944

The growing need for a full-time organization to keep engineering standards up to date was filled in 1944 with the creation of a small Standards Section in the Design Division.

During 1946 and 1947, the savings effected by the use of standards in the Design Division alone were of such magnitude that they pointed to great possibilities for increased savings in time, money, and effort, if use of the standards could be extended throughout the company plants. With this in mind, company management set up the Engineering Standards Committee as it exists today.

Standards Section

Working in close conjunction with, and serving as a service unit for this committee, the Standards Section now numbers eight full-time employees. Seven of the eight are du Pont veterans whose company engineering know-how has been accumulated throughout a total of 137 years service.

Aided by 23 subcommittees to which 123 additional engineers contribute a part of their time and skill, the standards engineers follow through on the activities of the Engineering Standards Committee. In addition, there are 35 consultants—personnel of the Engineering and Industrial Departments—to whom proposed standards are referred for comments and suggested changes before submission to the Standards Committee for final approval. Consultants are selected on the basis of their broad experience in specialized fields, and standards are referred only to consultants in whose specialized field the standard may apply.

Standards Committee Main Guiding Body

The Standards Committee, appointed by management, establishes the policies for the preparation of standards, approves the work program to be undertaken, and gives final approval to all standards prepared for issue.

Its voting members come, one each, from each Industrial Department, Remington Arms Company, Safety and Fire Protection Division, Design, Construction, Development Engineering, and Engineering Service Divisions. In addition to these are G. M. Read, Chief Engineer; H. D. Harkins, company representative to the Company Member Conference of the American Standards Association; and Harold F. Jones, Division Purchasing Agent, who serve as nonvoting advisory members. Chairman of the committee, also without a vote, is J. C. Lawrence, Division Engineer in charge of the Design Development and Standards Section of the Engineering Department.

Engineering Standards Represent Joint Effort

A suggestion for a new standard may originate in the committee, in any of the 23 subcommittees, or it may come from any external source, such as a Works Engineer. When the suggestion is received and pertinent data has been gathered, the standards engineer who handles this type of standard roughs out the general scope to be covered. It is then discussed by the Standards Section and reviewed by one or more con-

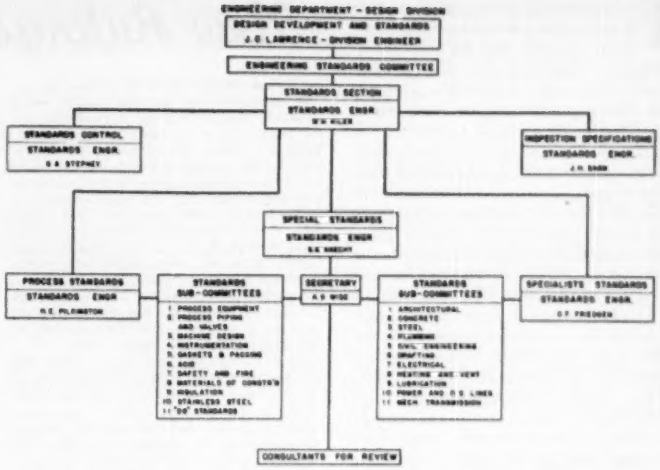
sultants. A memorandum describing the suggested standard is then submitted to each member of the Standards Committee for his approval, rejection, or criticism. All comments and replies are carefully reviewed, and, if differences of opinion exist, an effort is made to arrive at a satisfactory compromise. After final approval, the standard is issued to all holders of standards books.

Five Types of Engineering Standards

Because the number and acceptance of engineering standards has increased so rapidly during the past four years, they have been separated for convenience into the following five categories:

Engineering Standards, which include details for each of the types of engineering performed in the Design Division. These standards are in the greatest demand. There are 1088 sets in use at present throughout the company. Their principal worth consists in providing ready detail on the best accepted practice for doing the multitudinous detail jobs that occur in the design or construction of a new plant, or in the maintenance of existing plants.

Design Standards, which are known as "D" sheets and which contain tables and charts giving the results of lengthy computations and forfulae; or delineate ways to simplify repetitive design problems. The result of extended research and development, they eliminate repeated calculations and design studies in the checking and development of construction and process equipment requirements.



A special **DG Section** of **Design Standards** is also issued on the design of equipment used in chemical engineering unit operations. Data for this section originates largely with the Engineering Research Laboratory personnel.

Standards Methods, which consist of sketches or written instructions, depicting the proven method for doing specific, often-repeated jobs. They find their widest usage in maintenance plant service and minor construction work.

Standard Engineering Specifications, which are specific and detailed instructions to cover the character of material to be used and procedures to be followed in contracting work, purchasing material, and carrying out work with plant personnel. Descriptive, rather than graphic, specification writing is a skill which can effect great cost savings.

Inspection Specifications, which are used by both the company and the fabricator to describe in detail a piece of equipment of special design. Time and money are saved by use of inspection specifications, since they provide the fabricator with knowledge of equipment requirements and, at the same time, furnish full details to the du Pont inspector whose job it is to check constantly to be sure that these requirements are being met.

Currently, a new series of standards known as Stores Standards is being developed at the request of the Purchasing Department and the Manufacturing Divisions. These standards will cover with specifications the purchase of items subject to wide classifications because of the number of suppliers of the product.

Standards Engineer Guy Stephey, left, reviews with Henry Bunker, chairman of Stainless Steel subcommittee, relative merits of existing stainless steel valve measurements as compared to new du Pont dimensional standard, recently issued. In charge of Standards Control, Mr. Stephey keeps on his desk the 11 existing standards volumes, as well as control records of all revisions and cancellations since 1944.

Effect of Engineering Standards

The fact that over 2700 sets of Engineering Standards are being referred to currently throughout the company is effective testimony to their usefulness and acceptance. This is a remarkable figure, when we consider that their use is strictly optional.

It is estimated that the company saves over $1,000,000 annually by use of Engineering Standards. In spite of this very gratifying acceptance of the standards, however, and the savings which result daily from their use, the work of the standards engineers is even more important today than it was in 1944. With the steady stream of new products, new

(*Continued on page 69*)

New Rulings for Industry's

IN the nationwide campaigns to reduce industry's accident toll, uniform records are an important weapon. Compiled on a comparable basis, they make it possible to check on the nation's progress in safety, comparing the accident experience of industry with industry, and company with company. Most important to all concerned, however, undoubtedly is the fact that the regular compilation of accident and injury records gives an immediate warning when things go wrong. Without waiting for the annual compilation of compensation records, always two or more years behind the immediate experience, the monthly compilation of a company's accident toll shows at a glance when some change in operations or some unforeseen new hazard has caused a jump in the injury rate. Immediate action then can be taken to eliminate the hazard. In larger companies where the accident experience affects compensation insurance rates, such control can represent a substantial money saving.

The American Standard Method of Compiling Industrial Injury Rates, Z16.1-1945, provides the generally accepted rules for keeping track of a company's safety record. It specifies the circumstances under which an injury is to be included in the record and the amount of time to be counted as "lost time."

Since uncertainties in interpreting the rules are bound to arise in borderline cases, Committee Z16 in charge of this American Standard has set up a Committee of Judges to pass on doubtful cases. This helps to maintain nationally uniform application of the standard and keeps the records comparable from company to company, and industry to industry.

Already these judges have handed down decisions on some 100 cases. The first 41 have been reported in this publication (INDUSTRIAL STANDARDIZATION, June 1947, p 143; July 1948, p 60). An additional 13 are reported below. Others will be given in future issues. Safety engineers are invited to obtain rulings on doubtful cases by sending the facts to the American Standards Association. Reprints of all the published decisions can be obtained from ASA.

CASE 42. An employee left the company premises during her authorized 15-minute rest period, and slipped on a snowy sidewalk, fracturing her left arm. The Committee of Judges decided that this case should not be included in the rates.

CASE 43. A company asked for a ruling on two cases: (1) A stenographer was entering an elevator in the lobby of the main floor of an office building in which the company had leased space two floors above. The employee was on her way to work when she stepped into the elevator and saw the operator put his hand on the lever to close the doors. She stepped back to prevent being caught by the doors but when she reentered the elevator the elevator operator closed the door too rapidly, resulting in an injury to her right knee and ankle. (2) A sortergraph operator was leaving work at the close of the day from the company's leased office in a public office building. She descended two flights of stairs to reach the main lobby but, in stepping from the bottom stair to the floor, she placed her foot on a loose scrap of linoleum left by building workers and fell.

The Committee of Judges ruled that neither of these cases should be counted in the rates. This decision was based entirely on the location of the "entrance to plant property" and the fact that the employees were not on plant property at the time of the accidents.

CASE 44. A driver was struck by a lead pellet, presumably from an air rifle, while driving on his route. The judges ruled that the injury should be considered as arising out of and in the course of employment, as they felt that the hazard of being struck by flying objects is a part of the hazards of the occupation of employees involved in the continual use of public highways, and hence the injury should be counted in the rates.

CASE 45. This case involved two employees who were removing boards forming the bottom section of the east wall of a cooling tower. One employee was on the timber cross member about 10 feet above the top of the foundation and the other was on the foundation handling the boards as they were removed. Suddenly and without warning, a violent gust of wind of very high velocity struck from the south and a section of the top of the structure was blown loose and fell, injuring the employee working on the foundation. The judges agreed that this case arose out of and in the course of employment and should be included in the rates.

CASE 46. A clerk-stenographer, whose regularly scheduled hours of work were from 7:30 a.m. to 4:15 p.m., was injured in a collision at 7:40 a.m., while riding to work in an employer-owned vehicle driven by her supervisor. Due to the isolated location of the office in which the injured employee worked, personnel in that office ride to and from work in employer-owned cars which are assigned to other employees, who are subject to emergency call 24 hours a day. It was further ascertained that travel to and from work was normally done outside scheduled work hours, but on the morning of the accident the supervisor stopped at a substation in the vicinity, on company business, which accounted for his being a little late going to the office. It was not part of the employment contract that the employees be supplied transportation to and from the office. The nearest public transportation to this office was approximately 1.1 miles.

The Committee of Judges considered this to be a very borderline case, and finally agreed that it should be counted in the rates, based on the thought that while transportation was not a part of the employment contract, the public transportation facilities to the location appeared to be rather inadequate and it would appear that the transportation provided was definitely in the interests of the employer.

CASE 47. During a rainstorm, lightning struck a one-story frame construction-type

How many safety violations can you find?

See page 78 for list of violations in picture above . . .

warehouse, in the office of which a group of employees was working. When the lightning struck, a 33-year-old female employee fainted and was taken to the hospital, where the doctor diagnosed the case as shock (not electrical shock). The employee had been previously treated for a nervous condition. None of the other employees present suffered any ill effects from the incident. The judges agreed that this was a very borderline case, but they concluded that the stroke of lightning had aggravated the pre-existing nervous condition of the employee, and therefore the accident should be counted.

CASE 48. This case involved an injury to one of the chief station engineers of an oil company, in charge of the operations of a main line station, who was not required to do manual labor but only to supervise operating employees. It seems that the company had hired an independent contractor to cut down and replace a stock tank on the station site and the job had been entirely turned over to the contractor. The contractor assumed complete responsibility for the progress of the work. On April 29, the chief station engineer went out to the job which was some distance from the station. While he was standing on some oily timbers, the workmen on the opposite side of the tank released a cable which fell, striking the engineer on the arm. This excited him, and as he jumped he slipped on the timber and wrenched his knee. Due to the swelling of the knee he was off duty on Friday, April 30, and May 1 and 2, which were his regularly scheduled days off. He remained off duty May 3 and 4, returning to work on May 5. It would have been entirely possible for him to have worked all of the time he was off; however, in the opinion of the doctor, the swelling could be reduced by the application of ice packs if he remained at home.

The judges reached the decision that the injury should not be counted in the rates, because this employee was outside his regular employment at the time of the injury.

CASE 50. An employee, while putting metal on a shelf in a cabinet about one foot above the floor, felt dizzy upon resuming an upright position, and fell and struck his head on the cabinet, causing laceration over his left eyebrow and a contusion on the right side of his head above the ear. The plant physician at the scene of the accident diagnosed that the man was suffering from cerebro-vascular accident and noted the laceration and contusion. The man was known to have high blood pressure and to use alcohol a little too freely. En route to the hospital, he had two convulsions and a third during the day. He was hospitalized for four days.

The committee believed that the time lost was due to the laceration and contusion, which was an industrial accident caused by a pre-existing condition.

CASE 51. An employee suffered an avulsion of the tip of the third finger left hand, about one centimeter from the tip, presenting an area about one and one-half centimeters in diameter. The distal phalanx was protruding and it was necessary to remove a part of this phalanx and have a skin graft applied to cover the bare area completely. The question asked was whether, under 4.3 of the code, the 75-day charge should be made.

The committee agreed that this case represented a permanent partial disability with a time charge of 75 days.

CASE 52. This injury was a lost-time case which happened while the employee was going to lunch. He had punched his time card out, and was walking along one of the driveways within the plant grounds, when he was struck by an electric fork truck driven by a member of another department. The injured man was actually on his own time, although he was still on company property within the regular plant working area. The fork truck was improperly driven by the operator in that he was driving with a load in front of him which was obstructing his vision. The fork truck operator had been previously properly instructed not to drive with loads in front of him that obstructed his vision.

The standard practice in the plant has always been to charge the accident and the days lost to the department of which the injured was a member, regardless of the cause or in what part of the plant the accident occurred.

The type of records kept are for the purpose of comparing the accident experience of the employees of one department with the accident experience of employees in other departments. A poster is displayed in each department showing the number of days the department has worked without a lost-time injury and showing their best previous record.

In this particular case, the foreman and members of the man's own department vigorously objected to accepting a charge against their record for this accident, since the accident was beyond their control. The department had a long, unbroken record of no lost time.

The same objections would have been raised if there had been a deviation from standard practice and the injury charged to the fork truck operator's department which also had a long, unbroken record of no lost time.

The judges agreed that the question presented is not at present definitely covered by the American Standard. As an analogy to the fact that injuries are charged to the company where the employee works, however, they believe that the injury should be charged to that department to which the injured man's payroll and man hours are assigned, even though some other department may have been responsible for the cause of the injury.

CASE 53. The following case was presented to the Committee of Judges for their decision as to whether it constitutes an accident which should be included in the rates.

Smoking was permitted in many locations about the plant, particularly during the lunch hour. On August 27 one man observed the courtesy of offering his pal a light, and a spark from the match struck the pal in the eye so that it was necessary to hospitalize him. He was away a total of three days.

Many at the plant felt that offering a man a light was not to be found in any industrial operation and that the whole affair was not industrial and could have happened just as easily at home, on the street, at some friend's house—almost anywhere.

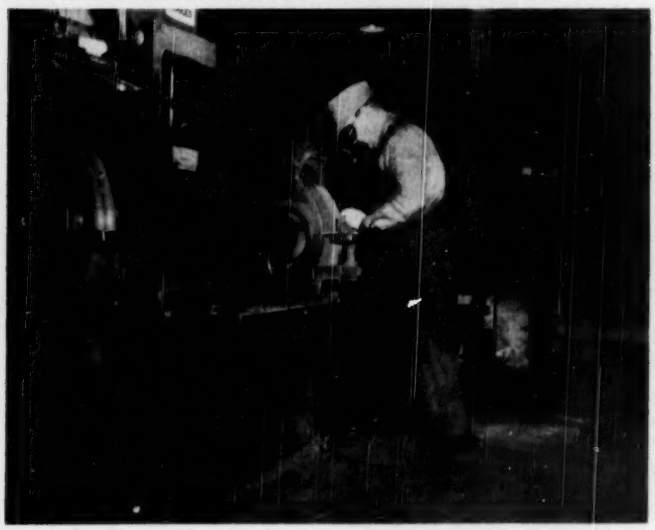
It did happen during the lunch period on company premises, however. The judges voted that this injury should not be counted in the rates on the basis that the employee apparently was not engaged in any voluntary work undertaken to benefit the employer and the injury did not arise out of his employment.

CASE 54. The judges were requested to determine the correct time charges for the following injury.

A woman employee was injured and the ring finger on her right hand was amputated at about the metacarpophalangeal joint. The middle finger was amputated about ⅝ in. proximal to the metacarpal phalangeal joint, the index finger was amputated through the distal end of the second metacarpal, and the thumb was amputated to the metacarpal phalangeal joint. There was a sharp projection at the base

(*Continued on page 75*)

Consolidated Edison photos loaned to STANDARDIZATION by Safety Engineering Magazine



. . . safety standards are vital to industry's accident records.

Industrialization and Standardization

by Carlos Camposortega and José María Ortega

Departamento de Normas, México, D.F.

CONTRARY to general opinion, Mexico has always been a mining country. Mining as an economic resource is not a satisfactory basis to support the economy of a nation, and less so when it sends to the market only raw materials or semifabricated products.

The whole world is going through a crisis; Mexico, like all other nations, has been deeply affected by it. Population growth makes the situation worse because of the necessity of increasing production and means of distribution of food and other primary products. Also, the tendency to migrate to the capital and other urban centers creates problems of many different kinds.

All these problems keep our people at a low standard of living and diminish the number of opportunities for the wide development of Mexican culture. The most recent presidents of Mexico have included in their programs as an urgent goal the necessity for increasing the national income in order to help the masses of people to live under better conditions. They have realized that projects leading to increased agricultural and industrial production are of primary importance.

Seal of Guarantee

Immediate agricultural development is hampered by the shortage of good arable land and the lack of such practical factors as irrigation, drainage, and good means of communication and transportation. Many factors combine to slow down or halt for a time the fulfillment of our agricultural aims—the large investments necessary and the technical difficulties that are encountered in the development of projects; the length of time necessary to make this submarginal land profitable; and the delay in improvement of desirable plant varieties capable of resisting tropical or subtropical climate and of giving a high yield.

It is, therefore, imperative that we develop our industry immediately, not only because of the lack of sufficient arable land but also because we are living in a period of evolution and progress which automatically forces us to such a state. As we must protect the economic life of the Mexican people, we have come to the realization that our exports must include more than raw materials. Mexico must consume as well as export the work of its people in order to exist.

In the face of this impelling necessity, Mexico has taken its first steps toward efficient industrialization; several products have already reached the market. Of course, these encounter some difficulties. Where the people have been accustomed for a long period of time to use certain products, they frequently do not like to change to new products which have not yet been proved as satisfactory as the old ones.

Dirección General De Normas

The Dirección General de Normas (which corresponds in most respects to the National Bureau of Standards of the United States) was created with the idea that these problems could be solved by using technical and scientific data to convince the consumer of the true quality of products and to assure him that this quality will not vary.

In 1945 President Avila Camacho signed the law of industrial standards which created the DGN. Under this law, the DGN is responsible for setting up standards of quality for all Mexican products, as well as for handling all related details. The DGN sets up the following kinds of standards:

(1) Nomenclature—defining terms, expressions, abbreviations, symbols, and diagrams employed in industrial and technical language.

(2) Quality—defining the combination of physical and chemical characteristics essential in a product destined for a particular purpose.

(3) Performance—defining, with a view to improving, the performance expected of machinery and equipment.

The law permits the Bureau freedom in selecting the fields of study it considers of major importance in the economic field or for the industrial development of the country. The DGN has modified its original purposes in some respects. It is the sincere desire of the organization to acquaint the manufacturer with the highest quality of products reaching the world market. It is also hoped that the general public may come to know the best quality available, even though not produced in Mexico. Therefore the local manufacturer, knowing the competition his products must face, will give the Mexican consumer a better source of supply.

In the work of standardization already initiated, the technical commissions of the DGN work together with specialists in a specific field to create the particular standards applicable. The projects are based on data supplied by industry, the Chamber of Commerce, the Bureau laboratories, and national as well as foreign research. Tentative specifications must include the following items:

(1) Definitions and generalities
(2) Classification and characteristics
(3) Methods of testing and analysis

When finally worked out along these three lines, the projects are presented for discussion to the manufacturers, consumers, and other interested organizations, both governmental and private. After approval by all those participating in the study, the decisions are published by the DGN in the form of a Norma (official specification).

The specifications are designated with the letters DGN (initials of the Dirección General de Normas); a letter specifying the industrial group in which the products is classified, followed by a number indicating the order of publication, a dash, and another number for the year in which the specification was approved.

Every manufacturer whose products meet the requirements of certain specifications may be listed under that heading in the official rating file of the DGN. All those accepted are permitted to use the official seal of approval in their advertising. This

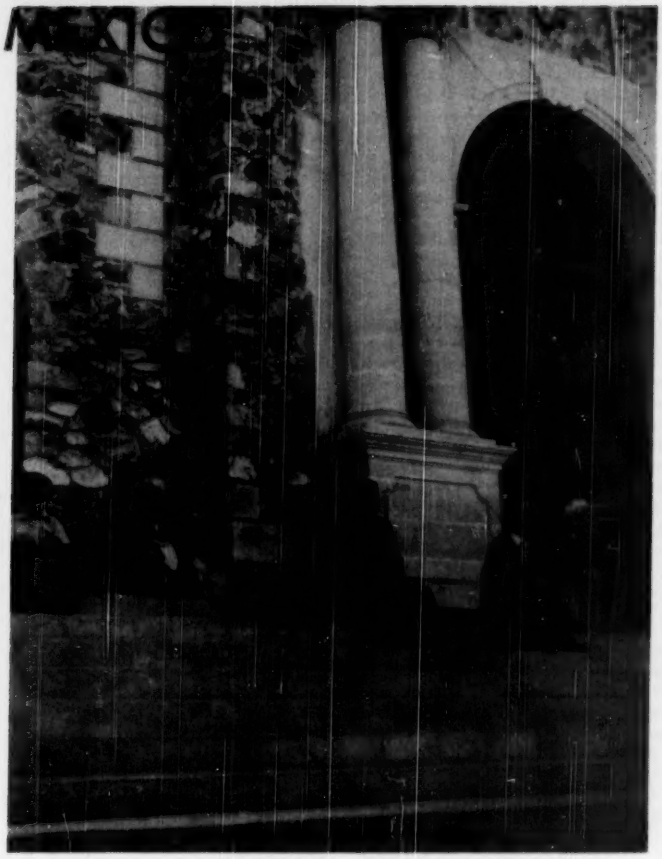


Photo by William G. Preston—Mexican Government Tourist Office

Modern Mexico is a picturesque blend of old and new.

seal of guarantee is shown on page 64.

Government purchasing agents always give preference to products bearing the official guarantee seal. Furthermore, the addresses of manufacturers meeting the Normas are sent to foreign consulates in Mexico for transmission to importers and other interested individuals in their respective countries.

Several proposals have been made that those manufacturers listed by the Bureau pay a lower rate of export tax on their products. These proposals will soon be taken under consideration by the government economists. As a matter of fact, the listed manufacturers of wrought silver who meet the DGN specifications for this product are already receiving a government subsidy. This action by the government initiates what it is hoped will become a broad plan of approval and concrete aid to those meeting the DGN specifications.

Under the industrial standards law, the DGN has the right to check on manufacturers using the guarantee seal, and also to revise the published specifications in order to keep them up to date on technical and scientific advances. The Bureau is trying to set up a scale of standard grades of quality broad enough to eliminate any necessity for revising the specifications as Mexican products improve, but rather so adjusted as to encourage progress into higher and higher categories (as already exemplified by certain competing foreign products). To advise and help the DGN in its work, the law also creates 18 standards committees, one to handle each of the following groups of industries (the letter specifies the industrial classification of the DGN):

A. Textiles
B. Metallurgy and metallic products
C. Building materials
D. Vehicles
E. Wearing apparel and cosmetics
F. Food products
G. Wood products
H. Pottery and ceramics
I. Hides and leather
J. Electrical products
K. Chemicals
L. Petroleum—distilled and refined products
M. Paper
N. Printing, photography, and cinematography
O. Tobacco
P. Glass
Q. Precision and musical instruments
R. Miscellaneous industries

Each committee is made up of representatives of industry, commerce, and government. The members are proposed by the Chambers of Industry, Industrial Transformation, and Specialized Industries, the Federation of Industrial Chambers, and the Secretary of Economy. From among those proposed, a committee of those residing in Mexico is chosen by the Secretaría de Economía (Secretariat of Economy or Department of Commerce). When necessary, another committee may be chosen for the same industry in another city of the Republic. The duties and responsibilities of committees are as follows:

(1) To advise the DGN of failure of any listed manufacturer to comply with the specifications; and also to advise of any controversy that may arise between consumers and producers based on application of the Normas.

(2) To recommend to the DGN subjects for standardization.

(3) To suggest, when necessary or desirable, the revision of existing published specifications.

(4) To furnish certificates for each product exported from Mexico, guaranteeing that said product meets the official specifications (if there are specifications for this particular product).

In addition, it has been suggested and the DGN has been given permission, to create a Mexican Standards Association to be called "NORMA." This association would serve as a guide to industrialists and merchants in the use of the specifications and work of standardization. "NORMA" would function as a subsidiary, semi-official organization until strong enough to work as an autonomous body. Its membership would be composed of representatives of the standards committees, selected by the Secretariat of Economy.

With the purpose in mind of enforcing all conditions of the law, the Secretariat of Economy was empowered to impose fines on those breaking the law. These fines vary according to the gravity of the infraction and the number of repetitions.

Laboratorios Nacionales De Fomento Industrial

During the course of their work, the study commissions encountered

various problems that could be solved only by industrial research. It became necessary, therefore, to have research laboratories. These could also handle some other work of national urgency. On December 30, 1947, President Miguel Alemán signed the law creating the Laboratorios Nacionales de Fomento Industrial (the National Laboratories for Industrial Encouragement). The law defines the purpose of the INFI as the carrying on of technical and scientific research along the special lines of:

(1) Determining the characteristics and properties of raw materials used by Mexican industry as well as of the industrial products made in Mexico.

(2) Seeking new methods and processes to exploit the natural resources of Mexico and to obtain further derivatives.

(3) Finding new uses for Mexican raw materials and derivatives.

(4) Helping to solve individual industrial problems that require laboratory research.

(5) Standardizing the testing of industrial products.

(6) Carrying out research in different branches of pure science which may have future bearing on industrial problems.

(7) Making tests, checks, analyses, and all kinds of general laboratory work to help industry.

(8) Making studies of basic, intermediate, and complementary industries that need to be developed in Mexico.

(9) Following out any other activity, complementary or related to the realization of the previously itemized aims.

Discoveries made in the laboratories are their property, unless the research project has been subsidized by some organization or person not related to the laboratory, in which case the discoveries become the property of the subsidizer. All investigation and research—with the exception of that subsidized by others—will be reported to the Comisión Impulsora y Coordinadora de Investigación Científica de México (Activating and Coordinating Commission of Scientific Research in Mexico). This last-named organization also advises the laboratories of all data that could help in the researches carried on by them.

The expenses of the INFI have been partially covered by an initial appropriation from the Federal Government, which will also provide an annual allotment for them. The balance of the budget is derived from donations from the Banco de Comercio Exterior, Nacional Financiera, Confederación Nacional de Cámaras Industriales, Confederación Nacional de Cámaras de Comercio and Asociación de Banqueros. After the initial payments, the annual quota will be in proportion with the economic capacity of those contributing. Fees received for work done for individual enterprises, royalties accruing from patents, and subsidies add to the income. All donations, subsidies, and contributions to the organization have been ruled tax exempt by the government. Further government aid includes exemption of the laboratories from payment of all taxes.

Directive Council

The laboratories have lately been released by the Government, and given to a Board of Directors formed by representatives of industry, commerce, bankers, University of Mexico, CICIC, and Bank of Mexico. Its control is in the hands of a directive council and a general director, with the supreme authority of the laboratories vested in the directive council.

The directive council is composed of the following members: a representative of the National University of Mexico, two representatives of the Secretariat of Economy, a representative of the Secretaría de Hacienda y Crédito Público (Department of the Treasury and Public Credit), a representative of the Secretaría de Bienes Nacionales (Secretariat of National Welfare), one from the Confederation of Chambers of Commerce, one from the Confederation of Chambers of Industry, one from the Bank of Mexico, one from the Activating and Coordinating Commission of Scientific Research, one from the Bankers Association, and the Director. The general director, designated by the directive council, is in charge for four years, may be reelected, and can be removed only for serious cause.

The members of the directive council and the officials of the INFI, as well as members of the staff, have to keep absolute secrecy on the work carried on there as well as on data loaned by other persons to help in the research, until the material is released for publication by the approval committee. Any infraction of this rule would be punished in accordance with penal laws governing the misdemeanor of revealing secrets of national importance. The members of the Directive Council are not allowed to request any information on the research carried on under contract.

Within the limitations above mentioned, the results of the work carried out in the laboratories will be made known in periodicals and special publications. For this purpose it will be necessary to create at least a technical journal, besides the publication of different circulars when necessary.

Five buildings of the laboratory have already been completed; the equipment is partially set up and partially on order: the directive council has chosen the director, and is working out the organizational details necessary. The Director, Dr Rafael F. Illescas, is now in the process of selecting personnel and outlining the first research problems to be carried on.

With the DGN and the work of the laboratories of the INFI, Mexico will have put into effect a system of industrial standardization comparable to that of countries more advanced technologically.

ACKNOWLEDGMENTS. The authors wish to express their sincere appreciation to Miss Rhoda M. Coulson for her collaboration in the wording of this paper.

Main building of the Laboratories Nacionales de Fomento Industrial.

• • High honors have been awarded by the French Government to Rene Tavernier, General Secretary of the Commissariat for Standardization of France and to Jean Birle, General Director of the Association Francaise de Normalisation. M. Tavernier has been elevated to the rank of Officer of the Legion of Honor and M. Birle has been made Chevalier of the Legion.

An Australian Comment on Abbreviations*

There are many who take a delight in catching out national standardizing organizations on the grounds of lack of uniformity in their own practice. Partly as a safeguard against such charges and partly as a

Australian News and Information Bureau

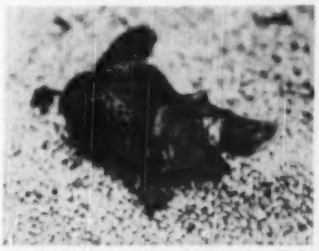
means of facilitating drafting work by committee officers, the SAA is at present preparing a style manual for its own publications. The proposed style manual, which is largely a consolidation of existing practice, is intended, among other things, to ensure that there is a reasonable degree of uniformity in the style of SAA publications. Rules relating to general writing practice do not present great difficulty, but the use of abbreviations has raised many thorny problems.

Abbreviations can often defeat the purpose of their introduction, the seconds saved by the writer and the printer sometimes meaning hours of search by some luckless reader who is not familiar with a particular abbreviation. The American Standards Association Abbreviations for Scientific and Engineering Terms (Z10.1-1941) states the problem clearly when it points out that the list of abbreviations is recommended for readers whose familiarity with the terms used makes possible a maximum of abbreviations. For other classes of reader, editors may wish to use less contracted combinations. For example, the listed American abbreviation of the term "feet per second" is "fps", but to some readers "ft. per sec." will be more easily understandable.

British Standards Nos. 560 813 deal with engineering and chemical symbols and abbreviations and these have been and still are to be followed as far as possible in SAA publications. In 1945 BSI introduced into B.S. 560 the principle of omission of full stops from abbreviations unless the abbreviation itself is an English word (for example, "ft", but "in."). Latest reports are that this innovation has not been well received and is to be abandoned.

Both staff discusions and comment from outside interests have revealed some sharp divisions of opinion regarding particular abbreviations. One which has attracted much attention is the abbrevation of "pounds per square inch". The commonly accepted forms are "lb. per sq. in." and "lb./sq. in.", but several people have commented favorably on the American "psi". There has, however, been some objection to this last abbreviation on the score of training of the reader since this is an American practice and may not be widely known among readers of Australian standards. A further difficulty is that if written without full stops "psi" could be confused with the twenty-third letter of the Greek alphabet, especially if pronounced as such.

If we accept the principle of omission of full stops, the choice is now between "lb per sq in.", "lb/sq in." and "psi". There may, however, be some who would favor "psi" if written as "p.s.i.". The Association would be interested to receive correspondence on this particular problem and on any other abbreviations which may be of interest to readers of the Quarterly.



American Museum of Natural History, New York

The Bronx Zoo in New York City is not above abbreviations and coined words; it houses the Australian Platypus in a "Platypussary."

* From the Australian Standards Quarterly, April 1949.

Safety Convention Scheduled for March

A major conference for the purpose of reducing accidents of all kinds throughout the nation will be held in New York during the last four days of March. Harold K. Kramer, president of the Greater New York Safety Council, has announced that 200 safety experts from many parts of the country will address the 50 sessions of New York's 20th annual Safety Convention and Exposition to be held at the Statler and Governor Clinton Hotels, starting March 28.

The convention is sponsored by the Greater New York Safety Council with the assistance of 60 national and local cooperating agencies, including the Red Cross, Army, Navy, Coast Guard, traffic and law enforcement agencies, local safety councils, chambers of commerce, insurance associations, city departments, industrial management, and civic organizations. The American Standards Association is one of these cooperating organizations. Cyril Ainsworth, technical director of ASA, has been reelected secretary of the council for this year.

Roof Coverings Classified For Resistance to Fire

A report on the possible classification of roof coverings from the viewpoint of fire resistance has just been issued by the Sectional Committee on Building Code Requirements for Fire Protection and Fire Resistance. The committee, sponsored by the National Board of Fire Underwriters, the National Bureau of Standards, and the National Fire Protection Association, has issued the report for the information of all groups concerned with building codes as an indication of its present views. The problem of roofing was considered in several meetings of Subcommittee 2 as well as by the sectional committee itself. The proposed requirements are based on well-known provisions of Underwriters Laboratories which have had wide acceptance by industry and the public alike for a number of years. "From the fire resistance standpoint," the report itself explains, "the requirements for roofing materials are based on (1) the protection required for the individual building that is covered and (2) the fire hazard presented by the roofing to the surrounding property." Copies of the report can be obtained from the American Standards Association.

• • H. G. Lamb, safety engineer, American Standards Association, spoke at a dinner meeting of the Industrial Safety Club of the Indianapolis Safety Council, January 17.

Dynamic Standards

by J. C. Rehard

NEVER has there been so much attention focused upon the promulgation and use of national standards as at present. The reasons for this heightened interest are quite obvious. In an economy such as ours, the marketing and general use of a greater variety of products is rapidly becoming a matter of common acceptance. The inherent nature of some of these products creates problems of safety in connection with their use. Some, due to imperceptible imperfections, present potential hazards to life and property that are not recognized by the designers and builders of apparatus and equipment. The latter are more important in some respects than the former. The user of a piece of equipment is forewarned in the first instance and acts accordingly. In the second instance he is apt to be led into a false sense of security if he relies upon equipment that has been manufactured without proper regard for recognized safety standards.

Standardization, from the standpoint of producing component parts of a device or a piece of equipment, is of great advantage and importance in reducing costs of manufacture and assembly. But, most essential to all of us is the standardization of requirements pertaining to the overall safety and the reduction of possible accident hazards. The establishment of dynamic standards that combine protection of the public with all economic factors is, therefore, indispensable.

In dwelling on the safety standard rather than standards in general, there are many items to consider. The manufacturer who seeks to market a product on a national basis, and who is confronted with an endless array of different local ordinance requirements which he must meet before any merchandising can be done in a given locality, has not only an economic problem to cope with, but a psychological one as well. Though they may be advertised nationally, when it is found that his products are not approved locally by some communities or states, they are quite often appraised with suspicion by prospective purchasers. Aside from this hindrance, the manufacturer is confronted with a problem of making minor or major changes in his equipment to fit the requirements of each and every locality in which he seeks to sell his wares. Economically, this may furnish the proverbial straw that will actually remove him from an otherwise good market.

New York City Housing Authority

Obviously, then, a solution which enables the producer to follow a standard and build his device accordingly, knowing that it will be universally accepted by the enforcement agencies, is well worth considering. The national safety standard seems to fill such an order quite satisfactorily. However, unless that standard is capable of being maintained up-to-date, and unless it provides for suitable requirements which will assure safety of construction and installation, as well as safe use for all concerned—the manufacturer, the marketing agency, the installers, and the users—it may tend to impede our progress.

In accordance with the policies and rules established by the American Standards Association, the drafting of a national standard brings together ostensibly the best available minds of an industry. If the draft is properly considered by the committee members, a modern and workable instrument is usually produced. Unfortunately, a code so promulgated may conceivably be out of date by the time it actually is in print, despite the committee's best efforts. In addition, such a standard may be inadvertently so written that some of its provisions are apt to be completely misconstrued by those who fail to understand the logic and reasoning of those who actually worked on it. These constitute the essential reasons why enforcement agencies in general are quite aware of the need for constant revision and interpretation of standards. A code having a legal status should be drafted and maintained in a form as clear and concise as possible for enforcement groups, as well as for anyone else to understand.

The problem involving interpretations of local ordinances is generally dealt with by the personnel of the enforcement agency, but sometimes it has been necessary to appoint an outside board or a committee to assist the agency in making sensible and reasonable interpretations.

Revising Local Ordinances

Revisions are somewhat difficult if not complicated matters to handle. In most cases, however, amendments and additions to local ordinances, when justified, can be passed without too much opposition. Many states have had, and some still have, laws which would prevent the adoption of codes or standards by reference. In too many instances the blame for failure to adopt recognized standards has been saddled upon these prohibitions. It should be pointed out that, even when adoption by reference is legal, an alert enforcement agency cannot recommend the adoption of national standards by reference unless those standards are actually dynamic, that is, they can be kept up to date and thus maintain a status which reflects progress. Some localities have attempted to whip the problem by adopting existing standards and writing them into their own ordinances, only to find that in a relatively short period of time revisions and amendments have been neces-

Mr Rehard, chief safety engineer of the City of Detroit, calls for "dynamic" national standards to assure local authorities they are using up-to-date requirements. Only with such assurance can national standards give maximum service to producers by cutting down conflicting local requirements, and to local communities by opening the door to new technical developments, he declares. Mr Rehard proposes that each standard be serviced by a committee set up with authority to interpret it and keep it up to date.

New York City Housing Authority

Building codes and safety standards are aiding housing developments such as the Governor Al Smith project now going up in New York.

sary. In such cases, the fact that the codes were incorporated into local ordinances made the bringing-up-to-date process relatively simple, but the result was a deviation from the existing national standard. This practice resembles that of jumping "from the frying pan into the fire." In the absence of a code authority capable of making revisions and interpretations of the national standard, this other means, as a substitute for attempting to get uniformity, has sufficed; but, as time goes on, it is becoming more apparent that it is now urgent that local regulations and national standards remain in tune with one another. The clamor for up-to-date national standards should be satisfied.

It seems quite obvious, then, that, unless some mechanism is set up to keep a code in tune with progress and to render uniform interpretations of its various sections, the value of the code to industry and to all others is considerably reduced. In other words, those who assume the reponsibility for the national safety standard should also assume the obligation of providing for some ready means of revision and interpretation.

When a central authority is established, such as has for years been the case with the American Society of Mechanical Engineers' Boiler Codes, the local government, be it state or municipal, can safely adopt a national standard code by reference, with the assurance that when reasonable and sensible amendments or revisions are necessary they will be made. The sponsoring agency can establish, and in some cases has established, permanent committees or boards or varying sizes for that purpose and has provided for their maintenance.

Based on Fact

The proposal to maintain a standing committee is not a new one and is based upon a background of proven facts. It is predicated upon the contention that national standards cannot serve adequately their intended purpose of providing for uniformity in a trade or an industry unless they are supported by the functions of such authoritative bodies. These bodies may follow a pattern as to size as required by the complexity of the safety code over which they have control. A code can conceivably be of great importance to industry as well as all others concerned and still be of such character as to need but little interpretation and comparatively infrequent revisions. It would be difficult to determine accurately in advance the size of a committee or a board required for the actual approach to the code. Likewise, it would be difficult to determine whether such an authority should be in more or less constant session, whether it should meet once a month, or whether it should meet only upon call. It might be recommended that the authorization for the establishment of such a group be included along with the acceptance of the standard, and that the details of meeting dates and the like be left for consideration after the needs have developed due to the adoption and use of the standard.

The customary three-year review period as set up under the ASA provisions works to the mutual satisfaction of those concerned with standards other than those which have a legal status. It is a well known fact, however, that safety standards legalized for use by governmental agencies require more frequent study periods and, in most cases, some central interpretive group. The complexity of the code pretty well governs the requirements for this central agency. In the case of the ASME Boiler Code Committee, previously mentioned, it has resulted in the establishment of a central office to which inquiries can be sent at any time; and regular monthly meetings of the committee are held to handle the inquiries and to continually study the Boiler Code. Depending upon the complexity again, it may be necessary to supplement the activities of the central authority with specialized subcommittees which, because of their nature, can delve into particular aspects of some problems more thoroughly and report back to the central authority.

In summarizing, it may be said that a national safety standard can serve its purpose by being useful to industry, to users, and to enforcement agencies only if it is subjected to more or less constant study and revision and is supported by a responsible committee. The committee should be vested with authority to act upon questions involving interpretations, and should be free to draw upon the knowledge and abilities of others outside of itself in order to fulfill its obligations reasonably and sensibly.

DU PONT

(*Continued from page* 61)

materials to be evaluated, and the increasing developments in the scientific field, the standards engineers' job remains constant. Proof of this is noted in the 1102 revisions in Engineering Standards since January 1945.

The principal object of using the standards is to reduce costs. By cutting costs we are able to produce more economically. When we produce more economically, we offer our products at a lower price. Lower prices, in turn, result in increased demand for company products and jobs for more du Pont employees.

Alaska Approves General Safety Code

The Alaska Department of Labor has recognized the problems of Alaska's growing industries by issuing a General Safety Code for the guidance of employers and workmen. Outlining the rules required by law to provide sanitary working conditions, protective clothing, and safe practices for the installation and use of industrial equipment, the Code is applicable to all of Alaskan industry, consisting mainly of mining, lumber, fur farming, and fishery.

The standards established have the force and effect of law, but the real purpose of the Code is "to provide a guide whereby lives may be saved, the productive capacity and wages of the worker maintained at high levels, and plant efficiency and property values preserved."

As a means of helping achieve these goals, the Department of Labor urges all Alaskan employers to join the National Safety Council and to make use of the training and other safety facilities available to them through organizations such as the American Red Cross, the United States Bureau of Mines, the National Fire Prevention Bureau, and the Accident Prevention Department of the Association of Casualty and Surety Companies.

Many of the provisions of the Code are those of American Standards or refer specifically to American Standards. The American Standards Association can be depended upon for help in developing a comprehensive safety program, it is explained.

In preparing the Code, the provisions of codes adopted by states and by Federal agencies have been freely borrowed when they apply to Alaskan conditions, and the suggestions and criticisms of Alaskan employers and representatives of organized labor have been used.

Extent of Code

Among the sections included in this comprehensive safety code are those on sanitation, industrial housing, first aid requirements, illumination, ventilation, housekeeping, material storage and handling, floors, stairways, ramps and exits, and fire prevention. A section on boilers and pressure vessels calls for use of the Boiler Codes issued by the American Society of Mechanical Engineers. All protective equipment and accessories are to be a type meeting the requirements approved by the American Standards Association or the U. S. Bureau of Mines. The American Standard Scheme for Identification of Piping Systems has been adopted. Storage or handling of flammable materials is to meet the requirements of the National Board of Fire Underwriters. The National Electrical Code and the National Electrical Safety Code are to be followed. The American Standard Safety Code for Woodworking Machinery provides the requirements for rigidity, tensile strength, materials, and design of saws. Wire cables must be certified as to their breaking strength by the National Bureau of Standards. These are only a few of the many specific requirements that are included in addition to requirements on ladders, hand tools, painting, explosives, elevators, and even general provisions for working conditions of women in industry.

"The observance of the minimum standards established by this Code is a token of that industrial democracy in which management and workers make an equal contribution to the development of the vast resources of Alaska—with safety," Henry A. Benson, Alaskan Commissioner of Labor, sums up in his foreword to the Code.

American Museum of Natural History, New York

Female fur seal, Bering Straits.

New Contract Form Not So Confusing

Contractors in New York City were pleased to note the adoption of a new public works contract form. The new standard form is the first step in the building industry's drive to have a similar basic contract adopted by all of the awarding authorities in the city. At present there are 16 awarding authorities, each having its own type of contract, differing in many clauses with other authorities. To further confuse the contractor, the typical contract has 33 printed pages, with 11 chapter divisions and 58 articles, many with sub-clauses. LeRoy Hagen, chairman of the coordinating committee which worked out the new public works contract form, pointed out the disadvantages of the present system of contracts: "This accumulation of conflicting requirements and clauses creates uncertainties in the minds of contractors when they are figuring lump sum bids. As a consequence, contractors are forced to include contingencies for protection against conditions that might be met that are not explicitly covered in the contracts. The necessary contingencies add to over-all construction costs. The committee representing the building and construction industry in these negotiations hopes that the new standard adopted by the Public Works Department will serve as a pattern for all other awarding authorities. If this is done, hundreds of thousands of dollars will be saved the taxpayers by the elimination of contingency items. The revised contract also is more equitable to both the contractors and the city, yet affords the city protection in the performance of contracts."

Two of the most important changes adopted in the revised contract cover final payment to contractors and stipulations as to sub-surface conditions met in excavation work.

Federal Supply

(*Continued from page 56*)

Standards Division and other agencies of the Government concerned with standardization have been established. One of the Government agencies with which this relation is a day-to-day matter is the National Bureau of Standards. Not only are staff members of the National Bureau of Standards actively participating in the development and preparation of Federal specifications, but advice is obtained from the Bureau on many technical and research problems. Close contact is being maintained with the technical staff of the Bureau dealing with Commercial Standards and Simplified Practice Recommendations. Requirements in Federal specifications are being correlated with these standards in order to adopt those trade and industry practices of advantage to the Government.

Day-to-Day Contact Needed

Experience in the working-level coordination of standards activities with major supply agencies, particularly the Department of Defense, has proved that more effective day-to-day contact is needed. Consideration is being given to the possibility of establishing direct working arrangements with the Munitions Board Standards Agency to provide the basis for avoiding duplication, for taking advantage of the work they are doing, and to promote greater Government-wide standardization.

On cataloging, coordination of standardization activities with the executive departments was originally achieved through the United States Standard Commodity Catalog Board on which the military and other major agencies were represented. With the organization of the Munitions Board Cataloging Agency of the Department of Defense and the joint development of the Federal Catalog System, day-to-day working relations between the Agency and the Federal Supply Service were formally established. By this means will be achieved the coordination of civilian cataloging activities with those of the military in the development of a uniform supply catalog which can be used by all agencies of the Government.

There has been no formal arrangement for contact with the other agencies on the inspection of material, although there has been limited direct agency contact on specific inspection work. However, arrangements have recently been made for participation in the activities of the Munitions Board Materials Inspection Agency.

To keep up with technological developments and industry practices, procedures are in effect whereby industry, and technical and professional societies advise on standardization matters. For example, all proposed Federal specifications are submitted to industry and technical societies for their review and comment. These comments are then carefully considered in the final preparation of the specifications. Similar assistance is secured on cataloging and inspection problems.

In addition, industry participation and advice has been generated through the Industry Advisory Council to the Federal Specifications Board and the United States Standard Commodity Catalog Board. The developments leading to the passage of P.L. 152 prevented active operation of the Industry Advisory Council. The re-establishment of the Council to provide assistance to General Services Administration is under consideration.

The program of the Standards Division includes the coordination of participation of General Services Administration technical personnel in activities of nationally recognized standardization bodies. The basis on which this participation can be actively conducted is under development with the Attorney General.

P.L. 152 declares clearly the policy of the Congress in respect to the coordination and correlation of property management and administrative services activities in the Government. As it applied to property management, the Administrator is required to prescribe policies and methods of procurement and supply and nonpersonal services with due regard to the program activities of the agencies concerned. In respect to policy regulations and delegations of his authority, the Administrator is required by the Act to advise and consult with interested Federal agencies to obtain their advice and assistance in carrying out the purposes of the Act.

Cataloging Activities

In addition to these general provisions, which in effect establish the requirement for direct coordination and correlation of GSA's standardization work with that of other agencies, there is specific provision requiring coordination and correlation of the cataloging activities of the GSA with those of the Department of Defense. While there is no specific provision in P.L. 152 requiring correlation of GSA specification and inspection activities with those of Executive Agencies, effective property management operations cannot be achieved without this correlation and it will therefore be fully established.

Savings Expected

The Federal Property and Administrative Services Act of 1949 for the first time brings together in a single, fully comprehensive piece of legislation all property management and administrative services operations of the Federal Government. Its consolidation of the related functions of supply, management, and maintenance of Federal buildings and real property, of the development of Federal and non-Federal public work, and of the management of Federal records makes it possible to attain the highest degree of efficiency in organization and operation of these activities and to save tremendous sums of Federal money. For example, the Task Force on Federal Supply of the Hoover Commission estimated that "a reduction in paper work costs of only $10 per order on the 1,500,000 orders now isued per year for merchandise of $10 or less in value would mean a saving of $15,000,000 per year. And that is only a drop in the savings' bucket."

The Task Force Report goes on to point out the following benefits which will result from the standards program of the General Services Administration. The work relating to purchases of articles of standard manufacture and greater use of specifications of standardizing bodies will stimulate wider competition and result in lower prices. Qualified products lists afford a means of excluding inferior products which cannot be accomplished successfully by the usual procedures. Savings will be possible through the elimination of unnecessary types and varieties and the resulting increase in quantity purchases and reduction in inventory levels.

With the development of a common supply language, order will replace the current disorder in determination of requirements in relation to inventories and operating programs; procurement; storage and issue; disposal, and other phases of supply function. Development of standard nomenclature and classification is also important for our national defense and for the success-

(*Continued on page 72*)

Standards From Other Countries

MEMBERS of the American Standards Association may borrow from the ASA Library copies of any of the following standards recently received from other countries. Orders may also be sent to the country of origin through the ASA office. The titles of the standards are given here in English, but the documents themselves are in the language of the country from which they were received.

For the convenience of our readers, the standards are listed under their general UDC classifications.

553 Economic Geology and Mineralogy

India

Method for Grading Processed Mica, IS: 13-1949

Classification of Processed Muscovite Mica, IS:14-1949

615.47 Medical Instruments

Poland

Various Surgical Instruments Such as Chisels, Bone Saws, Virchof Knives, Catheters, etc, Z 54018; 54025/6/7; 55000/1; 55003; 57011; 58509; 58511; 58520; 58530

Union of Soviet Socialist Republics

Catheters, Metallic, GOST 4607-49

621.753 Tolerances. Fittings. Gages

Germany

Plug Gage for Taper Drill Socket, DIN 2221

Ring Gage for Drill Taper Shank, DIN 2222

Federal Supply

(*Continued from page* 71)

ful administration of our aid to foreign countries. Preparedness and order demand that appropriate tools should be provided for normal Federal supply and be ready for use in a national emergency.

Improvement in the quality of inspection in both military and civilian agencies, through a coordinated program, will result in the Government obtaining better articles and will encourage reputable suppliers who may now be unwilling to compete for Government business. More extensive and improved testing through greater utilization of the manpower and equipment in Government laboratories will be achieved. There is scarcely a phase of Federal supply and property management operations which will not be aided and will not benefit from the standards program of GSA.

Poland

Various Forms of Working and Master Gages, PN M5300 through M53014

621.791 Soldering. Welding. Cutting

Belgium

Code for Good Practice Relative to Welded Steel Constructions. Section II, Gas Welding. Apparatus for Use With Oxy-Acetylene and Similar Flame, NBN 176

Code of Good Practice Relative to Welded Steel Constructions. Section I: Terminology. Definitions. Symbols

Spain

Electrodes for Arc Welding and Cutting. Terminology, UNE 14001

621.798 Packing Equipment

Rumania

Wooden Boxes for Packing Yeast Cakes, STAS 153-49

Wooden Boxes for Packing Farinaceous Pastes, STAS 154-49

Wooden Boxes for Sugar Packing, STAS 155-49

Wooden Boxes for Fruit Packing, Type 20 B, STAS 156-49

624 Civil Engineering

Austria

Weights of Various Building Materials, ÖNORM B4000

Soundproofing of Buildings, ÖNORM B8115

France

Standard Height of Loading Platform for Trucks and Railway Freight Carriages, P 07-002

Germany

Pre-Cast Walls of Light Weight Concrete, DIN 4232

Poland

Various Methods of Building Up Concrete and Reinforced Concrete Ceilings, PN B-1700 through B-1703

Spain

Determination of the Limit of Liquidity and of Fluidity Index of Soil, UNE 7002

Union of Soviet Socialist Republics

Calculation of Structures. Wind Load, GOST 1664-42.

625.1/.6 Railways and Tramways

Rumania

Demountable Brake Shoes, STAS 109-49

Union of Soviet Socialist Republics

Steam Rollers, Method of Testing, GOST 335-41

Road Graders. Classification. Dimensions, GOST 834-41

Ditch Excavating Machines, Trailer Type, GOST 835-41

628 Sanitary Technology and Engineering. Sewerage. Heating. Illumination

The Netherlands

Drain Parts; Seals for Road and Pavement Gullies (Revision), N 134

Rumania

Cement Pipes, STAS 79-49

Union of Soviet Socialist Republics

Asbe'sto-Cement Conduits and Fittings, GOST 1839-48

United Kingdom

Mild Steel Refuse or Food Waste Containers, BS 1577-1949

629.11 Land Vehicles. Transport Engineering

Belgium

NBN

188-1949 Lighting and Signaling Devices for Automobiles

Spain

UNE

26001 Automobile Steering Wheel

Union of Soviet Socialist Republics

GOST

4768-49 Gas-Generating Starter for Automobiles

4776-49 Bicycle Pedal Crank Levers

629.12 Ships and Shipbuilding

France

J 31-315 Hinges, Series VI, Strong

J 31-320 Hinges, Riveting Type, Series VII

J 31-325 Hinges, Welding Type, Series VIII

J 31-336 Hinges, for Skylights, Series X

J 31-480 Handles

J 35-366 Metal Cupboards

J 35-354 Metal Cloth-hook

J 36-451 Door Latch

J 36-480 Window Fastening, Light Types

J 42-811 Scuttle-Hole Plug

J 42-815 Reinforcement for Scuttle-Hole Plug, Welding Type

J 42-816 Reinforcement for Scuttle-Hole Plug, Riveting Type

Pr J 73-000 Rules Governing On-and-Off Switches for Installation on Merchant Marine Ships

The Netherlands

N 110 Deckbolts (revision)

Spain

UNE

27001-27004 Various Types of Bollards, Bitts and Mooring Pipes

629.13 Aircraft Engineering

France

Pr L 101 02.1 Minimum Pilot Lay Figure for Pilot Post Measurement

Pr L 101 00.2 Maximum Pilot Lay Figure for Pilot Post Measurement

Pr L 004 30 Splined Shafts and Hubs with Straight-Side Splines. Dimensions

Pr E 22-132 Splined Shafts and Hubs with Straight-Side Splines. Tolerances

Pr L 121 15 Installation of Fluids on Aircraft. Tolerances for Fuel Tank Dimensions

Pr L 140 28.2 Soldering Lugs for Electric Cable Terminals

Pr L 140 33 Various Types of Electric Receptacles Model "C"

Pr L 176 12 Aircraft Bolts, General

Pr L 176 31 Smooth Axles

YOUR PREFERENCE WILL GUIDE US

This column of standards is listed with numbers before titles. Elsewhere on these pages is the usual listing giving titles first. Please write us as to which system offers you the easier reference.

643.3 Kitchens. Kitchen Equipment

Union of Soviet Socialist Republics

Kitchen Utensils, Steel, Enamel, GOST 506-49
Dinner Service: Knives and Forks, GOST 4697; 4698-49

646 Clothing. Lingerie

Union of Soviet Socialist Republics

Men's Shirts, Specifications, GOST 4678-49
Quilted Jacket for Army Forces, GOST 826-49
Woolen Overall for Men, OST 38014-40
Dust-Proof Hooded Combination, OST 38021-40
Men's Clothing for Working in Places with High Temperature, OST 38042/3/4-40
Pillow Cases, GOST 2513-44

662.6/.9 Fuel Industry. Industrial Heating

Germany

Calcium Carbide Delivery Specifications, DIN 53922, Bl.1

Rumania

Fuel for Heating Purposes, STAS 54-49
Liquefied Petroleum Gas, STAS 66-49

Union of Soviet Socialist Republics

Diesel's Fuel, GOST 305-41
Determination of Plastometric Index of Coal, GOST 1186-48
Liquid Fuel "T-1", GOST 4138-49
Diesel Fuel, Determination of Cetane Number in, GOST 3122-49
Fuel Type "T-1", Specifications, GOST 4138-49
Charcoal for Gas Generators for Automobiles and Tractors, GOST 4635-49
Fuel for High-Speed Diesel Engines, GOST 4749-49
Kerosine for Lighting Purposes, GOST 4753-49
Coals and Anthracites. Method of Fractional Analysis, GOST 4790-49

United Kingdom

Thermal Insulating Materials (Suitable for Use Within the Temperature Range 200°F to 450°F), BS 1588-1949

664 Preparation and Preservation of Solid Foodstuffs

Rumania

Starch, Method of Analysis, STAS 180-49
Glucose, Method of Analysis, STAS 181-49
Dextrin, Method of Analysis, STAS 182-49
Glucose, STAS 9-49
Sugar, STAS 11-49
Sunflower Seed Oil, Comestible, STAS 12-49
Pumpkin Seed Oil, Comestible, STAS 13-49

665 Oils. Fats. Waxes

Denmark

Lubricating Oil for Refrigerating Machines, DS 348

Poland

Test for Existent Gum in Gasoline, PN CO4041
Determination of Sediment in Fuel Oil by Evaporation Method, PN CO4042
Benzine, Pharmaceutical, PN C96020
Benzine for Miners' Lamps, PN C96021
Benzine Used in Manufacture of Lacquers, PN C96023
Highly Flammable Naptha, PN C96035
Clear Naptha, PN C96037
Machine Oil, PN C96071
Cylinder Oil, PN C96095
Vaseline, PN C96105
Liquid Paraffine, PN C96106
Pharmaceutical Vaseline, Yellow, PN C96107
Axle Grease, PN C96133
Naptha Coke, PN C96175
Petroleum Products: Crude Oil, Industrial Oil, Spindle Oil, Paraffine, PN C96048; 96096; 96070; 96115; 96120; 96132

Rumania

Fuel Oil, Motor Oil, etc. Determination of Viscosity, STAS 117-49
Motor Fuel, STAS 176-49
Benzene, White Spirit, Kerosine, Gasoline, Determination of Aniline Point of, STAS 178-49
Paraffine Wax, Refined. Determination of Oil Content, STAS 190-49
Transformer Oils: Test for Dielectric Strength, STAS 286-49
Determination of Oxidation Stability of Benzene by Induction Period Method, STAS 312-49
Benzene: Determination of Heat Produced by Reaction With Sulfuric Acid, STAS 313-49
Benzene and White Spirit: Determination of Gum Content, STAS 314-49
Benzene: Iodine Number Test, STAS 315-49
Petroleum Products: Determination of Octane Number, STAS 26-49

Union of Soviet Socialist Republics

Coal Tar Used in Road Building, GOST 4641-49
Shell Oil, Specification, GOST 4806-49

668 Various Organic Chemical Industries

Rumania

Glycerine, STAS 193-49
Casein, Industrial, STAS 107-49
Soap. Method of Analysis, STAS 194-49

Union of South Africa

List of Synthetic Dyestuffs for Use in Foods, SABS 0.15-1949

Union of Soviet Socialist Republics

Liquid Soap, GOST 1830-49

666.9 Lime. Mortar. Concrete. Cement

Chile

Portland Cement, INDETECNOR 2.30-27
Method of Test for Fineness of Cement by Wagner Turbidimeter, INDETECNOR 2.30-28
Method of Test for Fineness of Cements by Sieves, INDETECNOR 2.30-29
Determination of Normal Consistency of Cement, INDETECNOR 2.30-30
Methods of Test for Time of Setting of Cements, INDETECNOR 2.30-31
Methods of Test for Indeformability of Cements, INDETECNOR, 2.30-32
Methods of Test for Specific Gravity of Cements, INDETECNOR 2.30-33
Methods of Test for Tensile Strength of Cements, INDETECNOR 2.30-34
Method of Test for Compressive Strength of Cement, INDETECNOR 2.30-35

Israel

Non-Reinforced Concrete Cylindrical Pipes, S.I.I. 27T
Reinforced Concrete Cylindrical Pipes, S.I.I. 28T

672 Articles of Iron and Steel

Germany

Chain for Steel Apron Conveyor, DIN 8175

Rumania

Anchor Chain, STAS 169-49

United Kingdom

Mild Steel Shackles, BS 825-1949

677.72 Metal Cables. Wire Ropes

Union of Soviet Socialist Republics

Steel Wire Ropes, GOST 3491-46

681.2 Instrument Making. Instrumentology

Germany

Adjustable Table Scales, Capacity up to 20 kg, DIN 1937

Union of Soviet Socialist Republics

Glasses for Aircraft Apparatus Dials, GOST 838-49
Methods of Recording Vibration of Airplanes, GOST 4602-49
Scales, Table-type, GOST 575-49
Cylinders and Cones for Crusher Gages, GOST 3779-49; 3780-49
Vibration Recording Instruments on Aircraft Board, Specifications for, GOST 4603-49
Micrometer Caliper, Indicator Type, GOST 4731-49

683 Hardware, Ironmongery

France

Various Types of Iron Hinges, Hasps, etc, P 26-419 through P 26-422, P 26-426

Sweden

Hinges for Wooden Doors and Windows, SIS 60 00 07

691 Building Materials

Austria

Bottom Layer for "Steinholz" (Stonewood) Magnesium Oxychloride Flooring, ÖNORM B3451
Test Methods of "Steinholz", ÖNORM B3452

Poland

New Materials and New Building Methods, Specifications, PN B492

Union of Soviet Socialist Republics

Methods of Mechanical Test of Concrete, OST 90050-39
Reinforced Concrete Plates, GOST 574-48
Rockwool, GOST 4640-49
Cement for Building Mortars, GOST 4726-49

77 Photography

Germany

Photographic Paper for General Use. Dimensions, DIN 4506

United Kingdom

16-mm Cinematograph Sound-on-Film Release Prints, BS 1585-1949
Film Spools for 2,000 ft., 35-mm Release Prints, BS 1587-1949
Lenses for 35-mm Cinematograph Projectors, BS 1590-1949
Photographic Lenses (Definitions, Requirements for Accuracy, and Markings), BS 1019-1949
Resolving Power of Lenses for Cameras and Enlargers, BS 1613-1949

Recent Actions on Commercial Standards

Commercial Standards are issued by the Commodity Standards Division of the National Bureau of Standards. They are voluntary standards developed through cooperation of manufacturers, distributors, and users and are made effective by means of voluntary certification of compliance by manufacturers on invoices, labels, or by grade marks on the goods themselves.

As explained by the Division, the purpose of Commercial Standards is "to establish standard methods of test, rating, certification, and labeling of commodities, and to provide uniform bases for fair competition."

Many Commercial Standards have been approved as American Standards, cleared through the nation's coordinating agency — the American Standards Association. All Commercial Standards are printed and made available by the Department of Commerce through the Government Printing Office, and the Superintendent of Documents.

Mineral Wool

The Recommended Revision of Mineral Wool, including Blankets, Blocks, Insulating Cement and Pipe Insulation for Heated Industrial Equipment, CS117-44, now the accepted standard Mineral Wool Insulation for Heated Industrial Equipment, CS117-49, is available. The purpose of this standard is to establish minimum specifications for insulating heated surfaces with mineral wool for the guidance of manufacturers, distributors, installers, contractors, engineers, and users.

Copper Tubing

The National Bureau of Standards has announced two new recommended Commercial Standards—one for Refrigeration Service Copper Tube, and the other for Automotive and General Service Copper Tube.

These standards were developed at the request of, and in cooperation with, the Copper & Brass Research Association. They provide minimum requirements for eight standard sizes of seamless annealed copper tube, manufactured for the purposes required, and ranging in sizes from $\frac{1}{8}$ to $\frac{3}{4}$ inch in outside diameter. They cover temper, manufacture, chemical composition, tensile properties, workmanship and finish, dimensions, weight, and tolerances.

Warm-Air Furnaces

The revised edition of this Commercial Standard, CS104-49, Warm-Air Furnaces Equipped With Vaporizing-Type Oil Burners, was originally proposed by the Federal Housing Administration. It provides for a field test and the posting of an installation certificate; contains several other adjustments designed to bring the standard abreast of current practice; and provides a basis for certification of the quality and performance of warm-air furnaces equipped with vaporizing-type oil burners for the guidance of manufacturers, distributors, installers, contractors, and purchasers. Ten cents per copy.

Model Forms

A Commercial Standard is announced providing a standard classification, size designations, and measurements for commercial model forms for the sizing of girls' ready-to-wear apparel. CS158-49, Model Forms for Girls' Apparel, 14 pp, 10 cents per copy.

Ground and Polished Sun Glass Lenses

Approval is announced of a Commercial Standard for sun glass lenses, CS159-49, Sun Glass Lenses Made of Ground and Polished Plate Glass Thereafter Thermally Curved, 9 pp, 10 cents per copy. In this Commercial Standard the focal and prismatic power as well as freedom from defects that impair the optical functioning of these sun glass lenses are covered.

New Officers of Consumer Committee

Alfred C. Thompson

Mrs. Elizabeth Sweeney Herbert

Alfred C. Thompson, general manager of Miller and Rhoads, Inc, Richmond, Virginia, has just been elected chairman of the Consumer Goods Committee. Mr Thompson represents the National Retail Dry Goods Association on this committee, which is the top technical group in charge of work on national standards for consumer goods.

Mrs Elizabeth Sweeney Herbert, editor of household equipment, *McCall's Magazine*, has been elected vice-chairman of the committee. Mrs Herbert represents the American Home Economics Association on the committee. She is national chairman of the Home Economics in Business Group of the AHEA, and was formerly Assistant Professor of both foods and nutrition and household technology at the College of Home Economics, Syracuse University.

Other members of the newly elected Executive Committee are:

Dr Faith Williams, Chief, Office of Foreign Labor Conditions, Bureau of Labor Statistics, U. S. Department of Labor (representing the American Association of University Women)

Dr Jules Labarthe, Jr, Senior Fellow, Mellon Institute (representing the National Retail Dry Goods Association)

Earle M. Edgerton, Director of Technical Control Department, Pacific Mills (representing the National Association of Finishers of Textile Fabrics)

Margaret Scattergood, research staff, American Federation of Labor (representing American Federation of Labor)

Mrs Edna Brandau, of Syracuse University (representing the American Home Economics Association)

Charles L. Condit, Secretary of Engineering and Technical Committee, Society of the Plastics Industry, Inc (representing the Society of the Plastics Industry, Inc)

New Rulings

(*Continued from page 63*)

of the ring finger which would need further prostatic improvement. This left only the little finger on the right hand. The bone specialist claimed that there would be little or no use of this hand.

The judges voted that the time charge should be 3000 days, as this injury was for all practical purposes the loss of a hand.

CASE 55. A company asked for an interpretation of Section 2.2 of the code concerning hernias.

In the past it had been their policy to charge as disabling injuries hernias arising out of and in the course of employment caused by severe strain or sudden effort if conditions "a" and "b" under Section 2.2 were satisfied. This had been done even though by condition "c", immediate pain was not sufficiently acute to cause the employee to stop work; that is, incapacity because of pain did not extend beyond the shift or day on which the injury occurred. However, in these cases upon recommendation of a physician at a later date—perhaps several weeks later—the hernia condition had been corrected by an operation. The time in such cases for the operation and convalescence period had been charged as "lost time." The company asked if they had been wrong in charging these cases as "disabling injuries."

It was not clear to them what period of time was meant by the phrase "until pain subsided." Is this one or more hours, until the end of the shift on which the injury occurred, or extending beyond and incapacitating the injured for work the day following date of injury?

They asked which of the following specific cases should be classified as disabling, and which not:

1. Employee alleged injury (pain in the hernial region), naming a specific place and time when injury occurred. Pain was not sufficiently acute to force employee to stop work and injury was not reported to supervisor until several days following date of alleged injury. When reported, the injured was sent to a doctor and a hernial condition was found to exist and later corrected by surgery.

2. Hernia was reported immediately to supervisor and injured was sent to a doctor for examination which revealed a hernial condition. This condition was not severe and no time at all was lost from the job until several weeks later when the hernia was corrected by surgery.

3. Hernia was accompanied by immediate, acute pain and nausea. Injury was reported to supervisor at once and injured was taken to a doctor. Employee was incapacitated for several hours but returned to work the following day and was able to perform his job in a normal manner. No time was lost until the surgery was performed several weeks later.

4. Hernia was accompanied by immediate, acute pain which forced employee to quit work. Injury was reported immediately and employee taken to doctor who recommended that the employee remain away from work until the hernia was corrected.

In all the above cases the company assumed that the hernias were caused by severe strain or sudden effort. In each case, the injury resulted in Temporary Total Disability. The question was which of these cases met the provisions of Section 2.2 of the code and therefore should be counted in the record.

Case 1 had been worded so vaguely that the Committee of Judges did not believe it was in a position to state exactly whether or not this case should be counted. One of the judges suggested that in order to classify this case he would wish to have the complete report from the injured employee in his own words as to exactly what happened. The question apparently was concerned with whether or not this injured employee felt pain at the time of injury and whether or not he actually had enough pain to stop work for a moment or longer.

The judges believed that Cases 2, 3, and 4 should be included in the injury rates. They also suggested that attention be called to 4.4.1 of the standard, which provides for specific time charges for cases of hernia.

Book Reviews

Flexibility of Sheet Metal Operations, by E. F. Ross. (Hydraulic Press Manufacturing Company, Mount Gilead, Ohio, copy free)

How to handle short-run production of metal working parts so that it can be profitably "geared" to mass production is the subject of this reprint of an article first published in *Steel*. This six-page pamphlet is an on-the-scene report of the experiences of John Deere & Company at its Dubuque, Iowa plant where production runs of tractor components ranged from 500 to 2000 pieces involving 52 different parts and a total of 96 different operations. These operations include: notching, blanking, forming, drawing, trimming, piercing, ferruling, and coining.

Technical Drawing. (3rd Edition.) By Frederick E. Giesecke, Alva Mitchell, Henry Cecil Spencer (The Macmillan Company, New York, $4.50)

The third edition is a complete revision with a large part of the text matter rewritten. A considerable number of new illustrations and problems have been added, and several hundred of the old ones have been redrawn. Throughout, the book has been brought into agreement with the latest revision of the American Standard Drawings and Drafting Room Practice (Z14.1-1946), and a complete facsimile of this standard is given in the Appendix. Also included in the Appendix are selections from American Standard Graphical Symbols, and technical data from American Standards for pipes and fittings, nuts and bolts, screws, and similar data.

This 850-page volume is intended as a class text and reference book in technical drawing. It contains a large number of problems covering every phase of the subject, and constitutes a complete teaching unit in itself.

Over half the page area of the book is taken up by drawings, all of which are large enough to be read with ease. Another important objective has been to maintain and, where possible, to improve the quality of the drafting in the illustrations. A special effort has been made to place illustrations and related text matter on the same or facing pages. All instructions for problems are given directly adjacent to the figures.

The basic chapters on Lettering, Multiview Drawing, Sectioning, Auxiliary Views, and Dimensioning have been completely rewritten and expanded. The most complete Dimensioning. This chapter has been approvision has been devoted to the subject of proximately doubled in size, with special attention given to limit dimensioning. The chapter on Fasteners has been revised to conform with the latest American Standards.

The chapter on Architectural Drawing was expanded by the addition of a section on Dimensional or Modular Coordination and a section on the functions of the Federal Housing Administration. All problem layouts have been redrawn to agree with the American Standard sizes 8½ x 11 inches, 11 x 17 inches, etc.

Annual Report of the National Bureau of Standards for 1948. (National Bureau of Standards, Washington, D. C., 25¢)

An interesting, readable summary of investigations in the physical sciences carried on at the National Bureau of Standards during 1948 is contained in a 272-page book, now available from the U. S. Government Printing Office.

Scientific activities at the Bureau during the year were conducted by 13 divisions concerned with electronics, applied mathematics, atomic and molecular physics, radio propagation, electricity and optics, meteorology, heat and power, chemistry, mechanics, organic and fibrous materials, metallurgy, mineral products, and building technology. A fourteenth division dealt with commodity standards. Of the numerous and varied projects carried out by approximately 100 sections within these divisions, those of greatest general interest and widest application have been selected as typical for description.

Included in this book are the development of a magnetic fluid clutch having extensive applications and many unique features, research on resin-bonded papers, development of a proposed new standard of length based on the wave length of a mercury isotope.

A. S. T. M. Standards on Petroleum Products and Lubricants (with Related Information). American Society for Testing Materials, 1916 Race Street, Philadelphia 3, Pa.

In this compilation of standard and tentative methods of test and specifications pertaining to petroleum are included those standards approved by the American Petroleum Institute as well as those cleared through Sectional Committee Z11 and approved by the American Standards Association as American Standard. The book brings these petroleum standards together in convenient form. Also included as information are ten proposed methods of test which are published in draft form for comment.

The standards cover motor and aviation fuels; Diesel and burner fuels, kerosine and illuminating oils, lubricating oils, greases, petrolatums and paraffin waxes, plant spray oils and petroleum sulfonates, cutting fluids, electrical insulating oils, light hydrocarbons, hydrocarbon solvents, crude petroleum, thermometers and miscellaneous. The book also includes the ASTM Engine Test Methods for Rating Fuels.

AMERICAN STANDARDS

Status as of February 6, 1950

American Standards Approved Since January 12, 1950

Letter Symbols for Aeronautical Sciences, Z10.7-1950 (Revision of Z10.7-1930)
Sponsors: American Association for the Advancement of Science; American Institute of Electrical Engineers; American Society of Civil Engineers; American Society of Mechanical Engineers; American Society for Engineering Education

Proposed American Standards Being Considered for Approval

By the Standards Council—

Graphical Symbols for Railroad Equipment, Z32.2.5
Graphical Symbols for Heat-Power Apparatus, Z32.2.6
Sponsors: American Society of Mechanical Engineers; American Institute of Electrical Engineers
Shutter Cable Release Tip and Socket With Taper (European) Thread, Z38.7.14 (Revision of Z38.7.14-1942)
Shutter Cable Release Tip and Socket With Straight (American) Thread, Z38.4.6 (Revision of Z38.4.6-1942)
Picture Sizes for Roll Film Cameras, Z38.4.8 (Revision of Z38.4.8-1944)
Requirements for Photographic Wetting Agents, Z38.8.14
Method for Determining Residual Thiosulfate and Tetrathionate in Processed Photographic Papers, Z38.8.25
Lens Aperature Markings, Z38.4.7 (Revision of Z38.4.7-1943)
Sponsor: Optical Society of America

By the Board of Examination—

Specifications for Portland Cement (ASTM C 150-49; ASA A1.1)
Specifications for Air-Entraining Portland Cement (ASTM C 175-48T; ASA A1.16)
Specifications for Masonry Cement (ASTM C 91-49; Revision of ASA A1.3-1948)
Methods of Test for Compressive Strength of Hydraulic Cement Mortars (ASTM C 109-49; Revision of ASA A1.4-1948)
Methods of Chemical Analysis of Portland Cement (ASTM C 114-48T; Revision of ASA A1.6-1948)
Methods of Test for Autoclave Expansion of Portland Cement (ASTM C 151-49; Revision of ASA A1.8-1948)
Methods of Test for Air Content of Portland Cement Mortar (ASTM C 185-49T; Revision of ASA A1.9-1948)
Methods of Test for Heat of Hydration of Portland Cement (ASTM C 186-49; Revision of ASA A1.10-1948)
Method of Test for Normal Consistency of Hydraulic Cement (ASTM C 187-49; Revision of ASA A1.11-1948)
Method of Test for Soundness of Hydraulic Cement Over Boiling Water (Bat Test) ASTM C 189-49; Revision of ASA A1.13-1948)
Method of Test for Tensile Strength of Hydraulic Cement Mortars (ASTM C 190-49; Revision of ASA A1.14-1948)
Method of Test for Time of Setting of Hydraulic Cement by the Vicat or Gillmore Needles (ASTM C 191-49; Revision of ASA A1.15-1948)
Sponsor: American Society for Testing Materials
Location and Size of Picture Aperture of 16-mm Motion Picture Cameras, Z22.7
Location and Size of Picture Aperture of 16-mm Motion Picture Projector, Z22.8
Location and Size of Picture Aperture of 8-mm Motion Picture Cameras, Z22.19
Location and Size of Picture Aperture of 8-mm Motion Picture Projectors, Z22.20
Dimensions for Mounting Frames for Theater Projection Screens, Z22.78
16-mm Sound Projector Test Film, Z22.79
Sponsor: Society of Motion Picture Engineers

By the Consumer Goods Committee—

Methods of Sampling and Chemical Analysis of Alkaline Detergents (Revision of ASTM D501-46; ASA K60.21-1948)
Sponsor: American Society for Testing Materials

By the Mechanical Standards Committee—

Black and Hot-Dipped Zinc-Coated (Galvanized) Welded and Seamless Steel Pipe for Ordinary Uses (ASTM A 120-47; ASA B36.20)
Seamless Alloy-Steel Pipe for High-Temperature Service (ASTM A 158-48T; ASA B36.21)
Seamless Carbon-Molybdenum Alloy-Steel Pipe for High-Temperature Service (ASTM A 206-48T; ASA B36.22)
Welded Alloyed Open-Hearth Iron Pipe (ASTM A 253-47; ASA B36.23)
Seamless Chromium-Molybdenum Alloy-Steel Pipe for Service at High Temperatures (ASTM A 280-48T; ASA B36.24)
Seamless 1-Percent Chromium, 0.5 Percent Molybdenum Alloy-Steel Pipe for Service at High Temperatures (ASTM A 315-48T; ASA B36.25)
Seamless and Welded Austenitic Stainless Steel Pipe (ASTM A 312-48T; ASA B36.26)
Welded and Seamless Steel Pipe (ASTM A 53-47; ASA B36.1-1945)
Welded Wrought Iron Pipe (ASTM A 72-45; ASA B36.2-1939)
Seamless Carbon-Steel Pipe for High-Temperature Service (ASTM A 106-48T; ASA B36.3-1942)
Electric-Resistance-Welded Steel Pipe (ASTM A 135-46; ASA B36.5-1945)
Electric-Fusion-Welded Steel Pipe (Sizes 4 in. to but not Including 30 in.) (ASTM A 139-46; ASA B36.9-1942)
Sponsors: American Society for Mechanical Engineers; American Society for Testing Materials
Single Point Tools and Tool Posts, B5.22
Punch and Die Sets, for Two Post, Punch Press Tools, B5.25
Involute Serrations, B5.26
Twist Drills, Straight Shank and Taper Shank, B5.12 (Revision of B5.12-1940)
Sponsors: American Society of Mechanical Engineers; Society of Automotive Engineers; National Machine Builders' Association; Metal Cutting Tool Institute
High Strength High-Temperature Internal Wrenching Bolts, B18.8
Plow Bolts, B18.9
Sponsors: American Society of Mechanical Engineers; Society of Automotive Engineers

By the Safety Code Correlating Committee—

Safety Code for the Prevention of Dust Explosions in Terminal Grain Elevators, Z12.4 (Revision of Z12.4-1942)
Safety Code for the Prevention of Sulphur Dust Explosions and Fires, Z12.12 (Revision of Z12.12-1946)
Safety Code for the Prevention of Dust Ignitions in Country Grain Elevators, Z12.13 (Revision of Z12.13-1946)
Sponsor: National Fire Prevention Association
Code for Identification of Gas Mask Canisters, K13 (Revision of K13-1930)
Sponsor: National Safety Council

Request for Reaffirmation of American Standards

Method of Sampling Hydraulic Cement (ASTM C 183-46; ASA A1.2-1948)
Method of Chemical Analysis of Portland Cement (ASTM C 114-47; ASA A1.5-1948)
Method of Test for Fineness of Portland Cement by the Turbidimeter (ASTM C 115-42; ASA A1.7-1948)
Method of Test for Specific Gravity of Hydraulic Cement (ASTM C 188-44; ASA A1.12-1948)
Requested by: American Society for Testing Materials

Request for Withdrawal of American Standards

Tool Shanks and Tool Posts for Lathes, Planers, Shapes, Boring Mills and Turret Lathes, B5.2-1943
Terminology and Definitions for Single Point Cutting Tools, B5-13-1939
Requested by: American Society of Mechanical Engineers; Metal Cutting Tool Institute; National Machine Builders' Association; Society of Automotive Engineers

Standards Submitted to ASA for Approval

Relays Associated With Electric Power Apparatus, C37.1 (Revision of C37.1-1937)
Approval Requested by: Electrical Standards Committee
20-Degree Involute Fine-Pitch System, B6.7
Fine-Pitch Straight and Bevel Gears, B6.8
Design for Fine-Pitch Worms and Worm Gears, B6.9
Approval Requested by: American Society of Mechanical Engineers; American Gear Manufacturers Association
Gray Finishes for Industrial Apparatus and Equipment, Z55.1
Approval Requested by: Mechanical Standards Committee

What's Happening on Projects

Safety Code for Elevators, A17—

Sponsors: American Institute of Architects; American Society of Mechanical Engineers; National Bureau of Standards

A subcommittee on hydraulic elevators has just been organized. W. H. Seaquist, National Bureau of Standards is chairman.

Safety Code for Mechanical Refrigeration, B9—

Sponsor: American Society of Refrigerating Engineers

William Hainsworth, chairman of the the sectional committee, has announced that he expects work to be completed on the revised edition of the code sometime this spring. The work to correlate and act on the many comments and suggestions received on the draft now under consideration is nearing completion. Correlation of the draft with the ASME Boiler Code is also well on the way.

"Reports continue to come in emphasizing the importance of the revised code," Mr Hainsworth says. "We feel very much encouraged that the new code will receive wide acceptance and justify the many hours and days the various subcommittee members have devoted to this job."

Electric Lamps, C78—

Sponsor: Electrical Standards Committee

An organization meeting of Subcommittee 3 on Fluorescent Starters was held February 1. The subcommittee is to develop standards for the electrical characteristics of starting switches for fluorescent lamps.

In the February issue of STANDARDIZATION, it was reported that G. A. Freeman had been designated to act as chairman. Mr Freeman is unable to serve, however, and Kenneth E. White of the Electrical Testing Laboratories has been appointed chairman of this subcommittee.

Letter Symbols and Abbreviations for Science and Engineering, Z10—

Sponsors: American Association for the Advancement of Science; American Institute of Electrical Engineers; American Society of Civil Engineers; American Society of Mechanical Engineers; American Society for Engineering Education

Stuart Hall, editor of Design News magazine, has been appointed chairman of the reorganized Subcommittee 11, abbreviations for Scientific and Engineering Terms, of Sectional Committee Z10.

Standards for Graphical Presentation, Z15—

Sponsor: American Society of Mechanical Engineers

The first meeting of this reorganized committee was held November 28, 1949, with Professor Douglas P. Adams, Graphics Section, Massachusetts Institute of Technology, representing the American Society for Engineering Education, as chairman. Three subcommittees are being organized to carry on the technical work of the committee: 1. Time Series Charts; 2. Engineering and Scientific Graphs for Publications; 3. Engineering and Scientific Graphs for Lantern Slides. L. S. Bonnell, representing the American Chemical Society, is chairman of the latter. Chairmen of the other subcommittees are now being selected.

One of the first jobs to be undertaken by the committee will be to consider the adequacy of the present scope and to review the existing standards. These are American Standard Engineering and Scientific Charts for Lantern Slides, Z15.1-1932 (reaffirmed in 1947); American Standard Time Series Charts, Z15.2-1938 (reaffirmed in 1947); American Standard Engineering and Scientific Graphs for Publications, Z15.3-1943 (reaffirmed in 1947).

It is expected that another meeting will be held in May.

Safety Color Code, Z53—

Sponsor: National Safety Council

A peacetime sectional committee has been organized to revise or reapprove the American War Standard Safety Color Code for Marking Physical Hazards and the Identification of Certain Equipment, Z53.1-1945.

W. S. Rassmussen, of the Atomic Energy Commission, and a member of Sectional Committee Z53, is chairman of a subcommittee which has recommended the use of the color purple to identify locations which have been made hazardous by the presence of radioactive material. This recommendation is now before the sectional committee for action. Mr Rassmussen represents the American Society of Safety Engineers on this project.

News Briefs

• • From Stockholm, Sweden, comes the announcement that Hugo Edstrom has been appointed by the King as president of the Sveriges Standardiseringskommission, the Swedish standards association. Mr Edstrom succeeds Hilding Törnebohm, internationally known SKF ball and roller bearing scientist. Mr Törnebohm continues as a member of the association's council.

• • The vice chairman of the sectional committee on Acoustical Measurements, Leo L. Beranek, has just written a book on *Acoustical Measurements*. Published by John Wiley & Sons, Inc, it discusses the basic facts underlying nearly every type of acoustical measurements, the details of many types of acoustical measuring apparatus, advantages and disadvantages of alternate methods for accomplishing electro-acoustic measurements, and the theory of many acoustic phenomena. Dr Beranek is vice-president of the Acoustical Society of America and has served as chairman of the Society's Standards Committee.

• • "Standardization and Engineering Materials" is the over-all title of a series of articles about plastics written from the purchasing agent's point of view and currently appearing in *Pacific Purchasor*. Third article in the series is on Thermoplastics—Acrylics and Polyamides, published in the January 1950 issue. Benjamin Melnitsky, freelance writer whose articles on standardization have been published in a number of magazines during the past few years, is the author.

• • General agreement was reached on international coordination of standards for shellac and mica at meetings of technical committees of the International Organization for Standardization at New Delhi in January, reports from India indicate. Representatives from nine countries including the United States, United Kingdom, and India attended. The few differences remaining were referred to a working commission appointed by the ISO committee to report before the end of February.

India accounts for 90 percent of world production of shellac and 80 percent of mica, with about 50 percent of exports going to the United States.

• • At the annual meeting of ASTM Committee D-12 on Soaps and Other Detergents, to be held at the Park Sheraton Hotel in New York City, March 21-22, several proposed new standards covering the testing and quality of various materials in the committee's scope will be considered. More than 30 standard specifications, tests, and series of definitions have been developed by the committee.

• • The American Home Economics Association expects a more unified and stronger program on behalf of the consumer to result from a recent action which it has just made effective. From now on, the AHEA representatives on the Standards Council and Consumer Goods Committee of the American Standards Association will automatically become members of the AHEA Consumer Interests Committee. This committee works with state groups as well as coordinating all the Association's "consumer interests" activities.

In its program for this year, the

committee has recommended that the state groups continue their work on the Consumer Speaks Project, through which commodities of special interest to consumers are discussed in the local communities. It has also recommended that the state groups work with the National Consumer-Retailer Council on the jointly planned "Program for Home Economics Teacher-Retailer Cooperation."

This year's program includes plans for a series of leaflets on how to buy such consumer items as house dresses, sheets, and chairs. Progress has already been made in preparing specifications for house dresses and conferences with house dress manufacturers are being planned to discuss their reactions to the proposals.

A recommendation of the Consumer Interests Committee that the AHEA issue consumer specifications for sheets "more in line with the exhaustive research over the past 22 years than the current standards" (American Standard Specifications for Bleached Cotton Bed Sheets and Pillow Cases, L4.1-1948) is to be considered by the AHEA.

• • The General Secretariat of the International Organization for Standardization announces that, as of the first of the year, the Netherlands have been elected to succeed Switzerland as a member of the ISO Council. The first of the year also marked the admission of Yugoslavia as a Member Body of the ISO.

• • Allan T. Prosser of Ward Baking Company has been named chairman of a new Sanitation Standards Committee recently set up by six baking industry organizations. The committee plans to develop standards of design, location, and function of bakery equipment, machinery and ovens. A. J. Faulhaber of American Stores Company, Philadelphia, is vice-chairman, and Raymond J. Walter of the Bakery Equipment Manufacturers Association is recording secretary.

SAFETY VIOLATIONS

The man operating the grindstone on page 62 is asking for trouble. We've tallied 10 safety violations—how many did you find: not wearing his safety goggles; wearing tennis shoes instead of safety shoes; shoes untied; not using the face plate protector; smoking; floor area dangerously littered; overalls improperly fastened; tools and rags protruding from pockets; unsafe stance; and not wearing safety gloves.

• • A revised edition of the American Standard on Cast Iron Screwed Fittings was approved by ASA on December 9, 1949. The new American Standard B16.4-1949 is a revision of American Standard B16d-1941, 125- and 250-lb Cast Iron Screwed Fittings, originally approved in December 1927.

The new edition contains the important addition of seven sizes of reducing elbows, 18 sizes of reducing crosses, and 29 sizes of reducing tees. Additionally, the table on caps has been revised to include the making of caps by the green sand core process, a more economical method than the baked sand core method, and now commonly used by the pipe fitting industry.

• • International Meetings Scheduled are:

ISO Council, July 3-7, Geneva.
Solid Mineral Fuel, ISO/TC 27, March 7-9, London.
Small Tools, ISO/TC 29, April 24-25, Paris.
Machine Tools, ISO/TC 39, April 26-28, Paris.
Documentation, ISO/TC 46, April, Italy.
Hermetically Sealed Metal Food Containers, ISO/TC 52, May 3-5, London.

Six new projects now under consideration by member-bodies of the International Organization for Standardization are: Pump testing; graphical symbols; agricultural seeds; coordination of certification marks; stretchers and stretcher carriers; hydraulic binders.

• • Dr Otto Frank, formerly director of the Deutscher Normenausschuss, German national standards body, has left the organization to head a new international technical library at a technical college in Zurich, Switzerland. Dr Arthur Zinzen, former secretary of the Prasidium of DNA, is now Director.

• • The 1950 edition of Section Eight of the ASME Boiler Construction Code covering rules for the construction of unfired pressure vessels has been published by The American Society of Mechanical Engineers. Compiled by the ASME Boiler Code Committee, it embodies all the revisions in the code that have taken place since the 1946 edition.

The 1950 edition covers carbon and low-alloy steels only. The rules for nonferrous metals, cast-iron, and high-alloy steels are now in preparation and will be added to the present volume. The stress tables are based on a safety factor of four instead of five as in the 1946 code. The 1950 code therefore allows the manufacturer more flexibility and cuts costs, permitting the construction of lighter vessels. With a table of contents as well as an index, the new volume is arranged for easy reference and is more workable for designers and inspectors.

The ASME Unfired Pressure Vessel Code has now been adopted by 38 states, Canada, Hawaii, Peurto Rico, and the Panama Canal Zone, as well as many cities in noncode states in this country. It is available from the ASME, 29 West 39th Street, New York 18, N. Y., at $3.50 a copy.

• • Federal Communications Commission spokesmen say that you can't eliminate noise from our everyday living until you develop a means of measuring and classifying it. Various groups are working on the "means" problem at present and hope in two or three years' time to be able to pin down a noise and name it for what it is and does. The General Electric Company, Schenectady, New York, has set up a committee to investigate ways of eliminating radio noises. The committee will make its report to the FCC and at the same time will report what is being done by ASA committee C63, Radio-Electrical Coordination. Members of the automotive industry are studying ways of reducing ignition interference from spark plugs in automobiles and the Army and Navy are currently investigating nuisance-type interference noises. They report some progress in devising instruments to evaluate, classify and measure them. However, engineering science may never conquer elimination of the Bronx cheer from the Brooklyn baseball games.

• • The Joint Committee on Effect of Temperature on the Properties of Metals, functioning under the auspices of the American Society for Testing Materials and the American Society of Mechanical Engineers, has reorganized its subcommittees. These cover Finance; Aviation; Data and Publications; Gas Turbine; General Research; Papers and Meetings; Petroleum and Chemical; Steam Power; Effect of Manufacturing Variables on the Creep Properties of Steel; and Stability of Steels as Affected by Temperature. The scope of the committee is "to sponsor investigations leading to the accumu-

lation, evaluation, and dissemination of data on the engineering properties methods pertaining thereto." Two existing standards being handled by the committee cover Recommended of metals at high and low temperatures and the standardization of test Practices for Short-Time Elevated-Temperature Tension Tests and Long-Time Creep Tests. A proposed standard on stress rupture tests of metallic materials is being developed. Extensive research investigations are under way.

• • The Mining Standardization Correlating Committee has recently re-elected officers and members of the Executive Committee as follows:

Lucien Eaton, *chairman;* representing, American Mining Congress

M. D. Cooper, *vice-chairman;* National Coal Association; representing, Coal Mining Institute of America

B. F. Tillson, *vice-chairman;* consultant engineer; representing, American Institute of Mining and Metallurgical Engineers

Executive Committee:

J. J. Forbes, U. S. Bureau of Mines

Richard Maize, Pennsylvania Department of Mines; alternate member representing, Mine Inspectors Institute of America

D. Stoetzel, Jr: mining section of General Electric Company; alternate member representing, National Electrical Manufacturers Association

During the past year, at the invitation of the Mining Standardization Correlating Committee, the Canadian Standards Association has appointed as liaison members, F. C. Dohaney, application engineer, General Electric Company, Ltd of Toronto, and W. F. Brown of the B. Greening Wire Company, Ltd of Hamilton, Ontario, thus affording a closer tie-in with Canadian Mining interests in work on standards in the mining industry. For the term ending December 31, 1951, the National Electrical Manufacturers Association has designated W. L. Wearly of the Joy Manufacturing Company as its representative in succession to Frank Thornton, Jr, with J. H. Edwards of the Rome Cable Corporation as an additional alternate.

• • More and more justification is being found for the use of modular products in building. A recent study made at the Small Homes Council, University of Illinois, and conducted under the sponsorship of the Structural Clay Products Institute, shows what economies can be effected by the use of modular-sized brick and tile. "Brickmasons' working time can be reduced approximately 10 percent," according to W. J. Goodwin, the Institute president. He adds that more than 50 per cent of all structural clay products are now available in modular sizes.

• • Standard Soiled Acetate fabric, in 18-inch widths is now available for use in testing washability of this type of rayon material, according to an announcement from the United States Testing Company. The fabric has a reflectance of approximately 25 per cent and the company notes that the soil washes out more readily than from cotton and wool.

• • James Dalton Cunningham, president of Republic Flow Meter Company, of Chicago, has been elected national president of the American Society of Mechanical Engineers for 1950. He is succeeding James M. Todd, consulting engineer of New Orleans. Mr Cunningham founded and became president of the Steam Appliance Company, now Republic Flow Meters Company, in 1911. He has previously held office as a manager and regional vice-president of the ASME and has served on many of its committees. He became a fellow of the society in 1936.

• • A complete revision of the Association of Casualty and Surety Companies textbook for high school driver education courses, *Man and the Motor Car,* has just been published. The book is used as a teaching aid in high schools throughout the country.

• • O. B. J. Fraser was installed recently as president for the coming year of the American Welding Society. He is assistant manager, Development and Research Division, The International Nickel Company, Inc, and is also active as both officer and member of committees of a number of metallurgical and engineering organizations.

• • Representatives of national organizations in the chemical field met December 19 to discuss the final arrangements for organization of a Chemical Correlating Committee by the American Standards Association. Methods by which the viewpoint of the chemical industry can be presented to sectional committees working on equipment and processes in which the industry has a special interest were considered. The organizations are being invited to name official representatives on the proposed correlating committee. The committee will confine its activities to products bought by the chemical industry, and its first job will be to study the projects now under way under ASA procedure to determine which are of special interest to it.

The organizations being invited to membership in the committee are:

American Chemical Society
American Institute of Chemical Engineering
American Petroleum Institute
American Society of Mechanical Engineers
American Society for Testing Materials
Manufacturing Chemists Association, Inc
Society of the Plastics Industry, Inc.
Synthetic Organic Chemical Manufacturers Association

• • The American Society for Testing Materials announces the following schedule of meetings:

March 1-2

Committee B-4 on Electrical Heating, Resistance, and Related Alloys (ASTM headquarters, Philadelphia)

March 8

Joint SAE-ASTM Technical Committee on Automotive Rubber (Detroit, Mich.)

March 15-17

Committee D-13 on Textile Materials (New York)

March 20 (Week)

Committee D-9 on Electrical Insulating Materials (Old Point Comfort, Va.)
Committee D-20 on Plastics (Old Point Comfort, Va.)

March 21-22

Committee D-12 on Soaps and Other Detergents (New York)

March 28

St. Louis District (Stress Analysis in Action) (St. Louis)

March 29

Chicago District (Functional Photography in Industry) (Chicago, Ill.)

April 27-28

Committee D-10 on Shipping Containers (Madison, Wis.)

June 26-30

53rd Annual Meeting and 9th Exhibit of Testing Apparatus and Equipment (Atlantic City, N. J.)

• • Max Reichert, General Director of the Institut Belge de Normalisation, has been appointed Liaison Officer for the International Organization for Standardization with the International Dairy Federation.

American Safety Standards You Need

HERE are the two important AMERICAN SAFETY STANDARDS that you will need for the compilation of industrial accident and injury rates. Nationwide in application, these safety tional Safety Council's "Safe Practice standards for the basis of the Na- Pamphlet No. 21," which is used for reporting the frequency and severity of industrial accidents and injuries and computing the rates for the

Council. These two important standards give you the interpretations and meanings of accident types—unsafe practices—classification of physical and mechanical apparatus and all other factors involved in computation of the rates. Insurance companies use these standards as a basis for advice to their insured and industry has found them good commonsense rules for cutting down accidents. For interesting decisions on border-line cases, turn to page 62 of this issue.

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Z16.2-1941
In Two Parts

American Recommended Practice for Compiling Industrial Accident Causes. Part I—Selection of Accident Factors—provides methods of analysis and classification for compiling industrial accident causes. Part II—Detailed Classification of Accident Factors—gives a detailed list of causal agency classifications, and provides classifications for accident types, unsafe acts, unsafe personal factors, and unsafe equipment. Numerical arrangements are suggested to fit the convenience of machine tabulation. Classification is given by major groupings for quick reference. Suggestions are made for tailoring the standard for specialized industry use. ..... **$1.25 includes Parts I and II**

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Z16.1-1945

American Standard Method of Compiling Industrial Injury Rates. A revision of a 1937 standard, this American Standard gives classifications and computation data for industrial injuries as differentiated from industrial accidents—an important distinction carefully explained in the standards. For accurate industrial safety records, the ASA sectional committee that developed the standards suggests that both standards be used for compiling statistics. The American Standard Method of Compiling Industrial Injury Rates specifies the circumstances under which an injury is to be included in records and amount of time to be counted as "lost time." ..... **$.35**

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